

POPULAR **Computing** **WEEKLY**

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13-19 March 1987

Vol 6 No 11

Low cost PC clones: now Commodore gets in on the act

NEWS DESK

**Amiga 500
launched
in London**

**Price and UK
availability
details inside**

**Sub £500 model PC1 announced
Details on page 4**

SOFTWARE

ST Art Studio

**Mini Office II
on Commodore**

PCW Masterfile



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◀ SOFTWARE

12 Mini Office II

Database's low cost suite of business programs has been converted for the Commodore 64. Word-processing, database, spreadsheet and communications software, all for under £10.

13 AMX Pagemaker

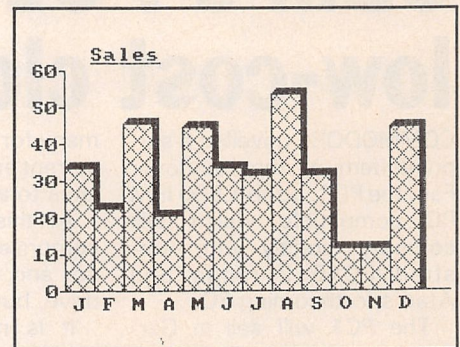
Desk top publishing packages on small micros are all the rage. Tony Kendle looks at *Pagemaker* for the Amstrad CPCs from a comparative veteran in the field, AMS.

14 Masterfile

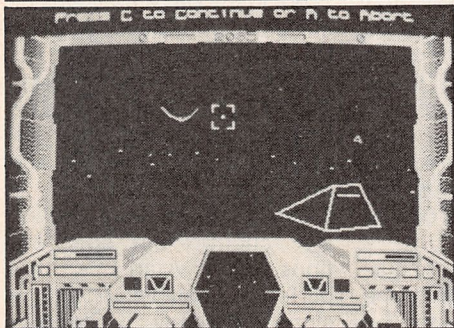
The ever popular *Masterfile* is now available on the Amstrad PCW machines. Easy to use and flexible, Tony Kendle discovers that it has stood the test of time.

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Another conversion of a famous program – this time to the Atari ST. Chris Jenkins notes that the latest implementation of *Art Studio* has undergone something of a transformation.



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The coin-op conversions are still in force, with *Nemesis* (at last!) from Konami and *Elevator Action* from Quicksilver.

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CBM's PC1 joins low-cost clones

COMMODORE unveiled a surprise item at the Hannover Fair, the PC1, a sub-£500 IBM PC compatible which will compete directly with Amstrad PC1512 range and Atari's forthcoming PC.

The PC1 will sell in Ger-

many for DM 1,295, which at current exchange rates, translates to around £430.

At this price, the system comprises keyboard, processor and 5¼ inch floppy disc drive, but not a monitor.

It is not yet clear when

exactly Commodore plans to introduce the PC1 in Europe but it should become available here during the summer. The price looks likely to be £449-£499, but Commodore may decide to add a monitor for the UK market.

Mastertronic moves into LPs

MASTERTRONIC is setting up its own record label, entitled Mastersound.

Mastersound will concentrate on compilation albums. The first LP is called *Heat of Soul*, and will include currently popular tracks such as *Stand by Me*, *When a Man Loves a Woman* and *Soul Man*.

Heat of Soul will be sold at £3.49.



UK release date for Mega STs

MUCH of Atari's stand at the Hannover Fair was devoted to the Mega ST machine, its first public showing in Europe.

The Mega ST is essentially a larger memory ST machine, with added facilities making it suitable for specific scientific and engineering markets.

"It is aimed at the higher end of the personal computer market," said Jack Tramiel. Two versions are expected in the UK, one with 2mb on-board memory, and one with 4mb.

In addition to the 520 and 1040 models, the Mega ST has the blitter chip built-in, a maths co-processor, and open bus for plug-in expansion cards. The keyboard and

processor are housed in separate units, and a 3½ inch disc drive is built-in as standard.

Monitors will be available as extras and Atari will be selling the RGB colour SC1224 and black and white SMM 804 monitors for the Mega ST.

The Mega ST is also to be sold as part of Atari's desk top publishing system, together with the company's new laser printer and driver software.

Atari plans to release the Mega ST in the UK in June. Prices have not yet been fixed for the system, but the company says it will be between £700 and £1,200 in the UK.

Tramiel: Atari's PC is "inferior" to STs

ATARI demonstrated just two models of its IBM PC clone at Hannover, in a stand crowded with Mega STs and the 1040STF. The company is treating the launch of the Atari PC in a low-key manner, and stresses that the machine does not form a major part of Atari's plans.

Indeed, the exact configuration for the UK version of the Atari PC has yet to be finalised.

In the US, Jack Tramiel, Atari's chairman, says that the PC will be sold in two versions. Both will have 512K Ram, one built-in 5¼ inch floppy disc drive, EGA graphics board, and serial and parallel ports. Each also has MSDOS 3.2, GWBasic, and Gem, with *GemWrite* and *GemPaint*. However, one will be sold without a monitor at \$499, and one with a colour monitor at \$699.

But in the UK, it may well be different. Bob Gleadow, Atari UK's general manager, is thought to be considering selling both versions with a monitor, but selling one model without the EGA facility and one with.

Jack Tramiel, was dismissive about exact specifications for the Atari PCs. "It's perfectly possible to do the clone differently. If Gleadow wants the EGA distinction, then he can have it.

"If we have to be in the clone market at all, we will do it better and we will be the best. We will produce what the mass market wants."

Tramiel is determined, however, that Atari's PC should not detract attention away from the new STs.

"The IBM range is old-fashioned and inferior technologically to the STs. But if people

continued on page 5 ►



Commodore's A500 will sell for under £600

COMMODORE last week finally launched the new Amigas, the A500 and A2000. In a simultaneous announcement in London and Hannover. The good news is that the A500 will retail at £587 inclusive, while the A2000, with a 1081 monitor, will retail at £1,641 inclusive.

The bad news is that although the A2000 will be available in April or May, the A500 won't be available until "at least June", according to a Commodore spokeswoman. The first public showing will be at the Commodore show in June.

The A500 utilises much of the technology of the A1000. It is supplied without a monitor, although a Pal TV modulator will be available at a "nominal" charge.

It features the standard Motorola 68000 plus 3 chip wordprocessor system with 512K Ram. This can be expanded internally to 1mb, and externally to 8mb. There is one built-in 880K 3½ inch floppy drive on the right hand side of the unit, with a possible two additional drives to be added. A mouse comes as standard.

The A500 has PC-compatible parallel and serial ports and Amiga system bus expansion capability.

The machine can not only handle games and graphics, with stereo sound, but is also suited to multi-tasking in a similar way to the A1000.

Kaday confirmed that both new machines will be up-



wardly and downwardly compatible with "anything that will run under AmigaDos".

At the dual presentation Commodore UK managing director Chris Kaday described the A500 and its business-oriented sister machine, the A2000 as "the ultimate" home and business computers.

He went on: "Our main target audience will be the upgrade market from existing 64, Spectrum, BBC and Amstrad 464 users who are seeking a greater level of so-

phistication and facilities than cheap MSDoS machines can offer."

The Amiga A2000 (see *Popular Computing Weekly*, March 6) runs on the 68000 at 7.14MHz, supported by three co-processors. It has 1MB of Ram, internally expandable to 9MB. There are eight interfaces as standard, including serial and parallel ports, plus and interface for the keyboard.

An optional extra to the A2000 is the A2088 IBM board, with which the A2000

has full IBM compatibility. There is room on the A2000 to add a 5¼ inch disc drive or hard disc drive to use with the IBM board.

Prices start at £1288 inclusive for an A2000 with single 3½ inch 880K floppy drive, 1mb Ram, keyboard and mouse, to £1,641 inclusive for the A2000M, with 1081 monitor.

In addition, all component A2000 parts are available separately, and a 1081 monitor costs £410 and A2088 PC bridgeboard costs £351.

PC is "inferior"

◀ continued from page 4

want to buy our PC compatible, then they can. However, we will tell them that they are buying the wrong machines, that they should be buying an ST."

Tramiel justifies the move to producing an IBM standard machine as one of providing what the public wants.

"Atari has done a fairly

good job with brand new technology and not copying what is old. We've sold well without a PC clone, but we will produce machines which the public wants, and there is a demand for low cost PC clones," Jack Tramiel said.

Atari has not yet put a specific date on the PC's arrival in the UK. "You'll see it in the summer," was all Tramiel would say.

Blitter upgrades in summer

THE long awaited blitter chip will be offered as an upgrade to all ST owners later this year.

The first blitter chips off the production line will be built into the Mega STs, and Atari president Sam Tramiel doesn't expect the upgrade service to be available until

June or July.

Tramiel also stressed that the upgrade would only be carried out by authorised dealers. "We certainly won't be offering it as a DIY job", he said.

The blitter, a block image manipulator, is a processor designed to move blocks of data in the screen memory very quickly, leaving the main processor free to concentrate on other tasks. Its effect is to speed up graphics operation considerably.

PCW desktop publishing war

IT'S official – the race is on between Mirrorsoft and The Electric Studio for the first desktop publishing system for the Amstrad PCW 8256/8512.

The Electric Studio has slated its *Newsdesk International* for release in two weeks' time.

This system may well pip Mirrorsoft's *Fleet Street Editor Plus* to the post. FSEP, long delayed in its PCW version, is also due for release at the end of the month.

A Mirrorsoft source said the company was "worried" by the news, particularly after the delays its system has suffered in development.

Add to that the fact that *News International* undercuts FSEP by £20, and Mirrorsoft's reaction is understandable.

Martyn Hodges, sales director for The Electric Studio, says that the company has

specifically designed *Newsdesk International* for the PCW. *Fleet Street Editor Plus*, on the other hand, exists in versions for several machines, the latest being the Atari ST, due next week (see *Popular Computing Weekly* for review).

"We decided to bring our system out, because everybody else said they were going to, and nothing appeared," says Hodges.

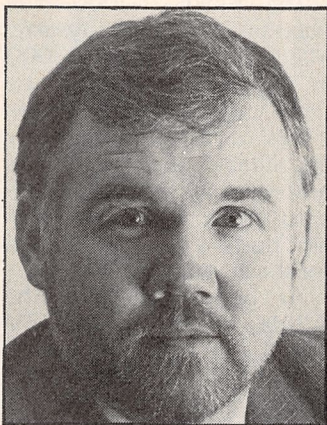
"We've got three people working flat out to complete the system, the manual and the packaging, and it should be released in two weeks."

The Electric Studio's *Newsdesk International* will cost £49.95, and can be used with the company's mouse, light pen and digitiser. Details are available from The Electric Studio, 13 The Business Centre, Avenue One, Letchworth, Herts SG6 2HB (0462) 834864.

Borland appoints new MD

TOM Cahill, Deputy Managing Director of Ashton-Tate, has been appointed managing director of Borland, which specialises in low-cost business software.

Cahill commented: "To take up the reins of a major software company with the greatest potential for growth of any in the UK is clearly a very exciting prospect. I knew that Borland's product price/



performance ratio could not be matched and its installed user base is the envy of the industry."

Speller for Micropro

MICROPRO International has announced the appointment of a new managing director for its UK subsidiary.

John Speller, who has been marketing director for four years, replaces Robin Oliver, who died recently.

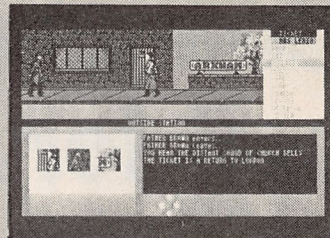
Software Hotlines

WHAT would you do if two hundred and fifty thousand pounds landed in your sweaty little paws? Blow it on a five star trip round the world? Renationalise British Telecom? Buy everyone in Canada a penny chew? Not so the **Softek/Edge** conglomerate.

They've got £250 000 to spend on programmers. Interested? Tim Langdel is the man to contact – and although he's looking primarily for 68000 programmers, he's also on the prowl for 8-bit talent, particularly on the Commodore 64.

Tim is looking for "serious people – people interested in working on serious projects", but in return would be willing to supply equipment (new machines, hard discs, etc) to someone "really competent." Most of the 68000 stuff is well into the future though, although the latest release from **The Edge**, *Warlock* (see below) will have Amiga and ST conversions "in the fullness of time."

Apart from Garfield's *Big Fat Hairy Deal*, forthcoming Edge attractions include a Commodore 64 sideways scroller, *R.I.S.K.*, written by the author of **Melbourne House's** *Knucklebusters* and Commodore and Amstrad conversions of *Shadowskimmer*. The 64 version will be smooth scrolling, rather than flip screen (as it was on Spectrum) and it is hoped the CPC



version can incorporate this feature, too. Expect both titles around April.

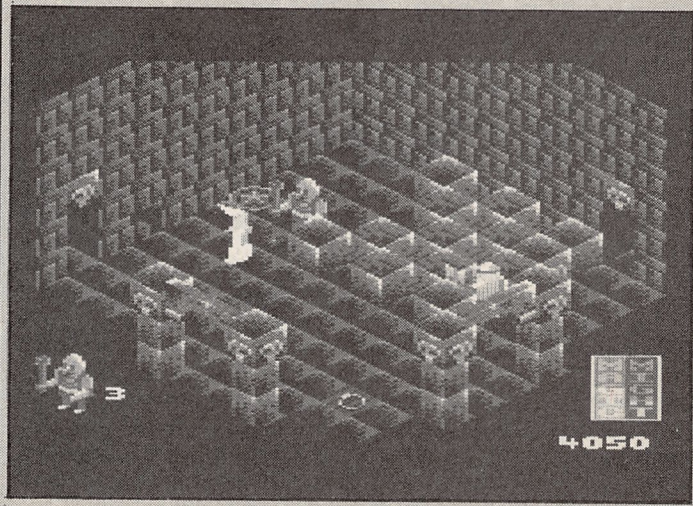
News from **Melbourne House**, with two new programs, *Mystery of Arkham Manor* (see above) and *Doc the Destroyer*, the latter an interesting mix of adventure and arcade combat. However, if you ever wanted to experience the ups and downs of investigative journalism, maybe *Mystery of Arkham Manor* is for you.

Set in the twenties, your editor receives a letter from Colonel Fortescue (respected Arkham resident, almost certainly based on *The Archers* beau of the over-sixties, Col Danby) reporting dark things afoot.

In the course of your investigations you must send telegrams to the ed, write articles, take pictures, all displayed on screen. Looking good in demo form, expect to see it on C64, Spectrum and CPC about mid-May.

Finally, I've just seen what must be the ultimate in *Darius* from **Taito** is a sit-in, which not only has three ultra high res. screens – one or two player, but you plug your walkie headphones into the console for extra sound effects! One step closer to the 'insert brain here' coin-op. I give it ten years.

John Cook



THE OFFICIAL



FA Cup 87

FOOTBALL

This new up-dated version of last season's best selling official FA Cup Football incorporates every league club's form for the 1986 season as well as new manager's questions to test your judgement.

FA Cup Football 87 is a text based simulation of the FA Competition that allows you to take 10 teams to success. You make decisions about tactics during play and answer which contribute to your teams victories.

The game has been developed with the full endorsement of the Football Association and the form that gives such realistic results has been provided by sports writer Tony Williams (author of the Official FA League and Non-League Directories).

Available for Spectrum 48/128, Commodore 64/128, and Amstrad CPC computers. All versions are on cassette only and cost £7.95. Available from all good software shops from 24 February 1987 or directly from Virgin Games.

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Commodore 64/128
Amstrad CPC

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MONEY ENCLOSED



Atari announces record profits

ATARI also took the opportunity at the show to announce record sales and profits in its financial results for 1986 and for the three months to December 31, 1986.

Sales revenue in 1986

WHS speaks out on Atari

WH SMITH has scotched claims made by Atari recently that the stationery chain had committed itself to stocking the ST and 65XE games console.

When asked to confirm the claims made by Atari marketing manager Paul Welch, WH Smith hardware buyer John Rowland said: "Well, he would, wouldn't he?"

"We haven't signed anything yet - nor have we made any concrete moves towards stocking Atari's machines," he went on. "But they do seem to be coming back into the mass market, which is good news."

Would other machines have to go if Atari items were stocked?

"We'd have to look very closely at other lines. It's a question of space, and since most of our business comes from newspapers, magazines and stationery, our computer hardware space is obviously limited. Recently we've been having great success with software, but less in terms of hardware."

He admitted that the chain's sales of Amstrad CPC machines had been dropping, but categorically refuted suggestions that the Spectrum was taking the place of the CPC, saying that "Spectrum sales have remained constant."

"If anything, it is the fact that the U.K. market for the CPC has reached saturation point, although they still sell terrifically well on the continent."

reached \$258,131,000 (about £172 million), compared with sales of just under \$142 million (about £95 million) in 1985. In 1986, profits totalled \$25,050,000 (£17 million) compared to a 1985 loss of over \$14 million (£9 million).

In the three months to December 1986 alone sales increased 41.8% from the corresponding period in 1985, from \$65,350,000 to \$92,567,000 (£44 million to £62 million), with a fourth quarter profit of just under \$12 million (£8 million).

This set of results are the best for Atari since Jack Tramiel bought the ailing company from Warner Brothers in 1984.

Tramiel himself is particularly pleased at the turnaround in the company's fortunes in the last two years. "It

is the first time since running a company that I have had money in the bank. With the other company (Commodore), we borrowed. Now we are debt-free and have \$70 million in the bank."

Jack Tramiel: "It is the first time since running a company..."



PCW ribbons service

DON'T throw that Amstrad PCW ribbon away, it's worth £120! That is, if users have their ribbon re-inked, rather than throw it away.

Just such a service is now available from the aptly-named A Simple Concept. Angela Gonzalez-Diez and Ricardo Maragna have set up this service, and for £2 they will re-ink your old PCW ribbon.

The pair claims that each ribbon can be re-inked up to sixty times before any loss of

print quality can be detected. Two ribbons sent together earn a further discount of 10 per cent, thus saving even more.

Maragna says that if the service is a success they hope to go into software, and it is to be hoped that their software ideas are as original as this one. Further details are available from A Simple Concept, Top Floor, 2 Llanbleddian Gardens, Cathays, Cardiff CF2 4AT, (0222) 35820.

Uchi Mata recalled

SPECTRUM users take note: the first production run of *Uchi Mata* on the Spectrum contains an early, preview version.

Several copies are affected by the error, which is apparent at the end of the game, when the sources do not return to zero, but continue to rise.

Martech will issue new copies, and refund postage, to all purchasers of affected

copies of the game.

A Martech spokesman apologised for the error, and said: "We can only hope to relieve the situation by sending out new copies of the game as quickly as possible."

Anyone who has bought one of these copies should return it to Martech, Martech House, Bay Terrace, Pevensey Bay, East Sussex BN24 6EE, or contact David Martin at Martech: (0323) 768456.

DIARY DATES

MARCH

20-22 March

The Electron & BBC Micro User Show

UMIST, Manchester

Details: Software, hardware and peripherals for Acorn's micros

Price: £3 adult, £2 children, £1 discount for advance booking

Organiser: Database Exhibitions, 061-456 8835

APRIL

11 April

Dragon Computer Show

Ossett Town Hall, nr Wakefield, W Yorks

Details: Software, hardware and demonstrations for Dragon users

Price: £1 adults, 50p children and OAPs

Organiser: John Penn, 04203 5970

24-26 April

The Atari Computer Show

Novotel, London W6

Details: First chance for Atari to show off exciting new strategy

Price: £3 adult, £2 children, £1 discount for advance booking

Organiser: Database Exhibitions, 061-456 8835

MAY

2-3 May

First Ideal Microcomputer Show

Kensington Exhibition Centre

Details: Software, hardware, peripherals for consumer users

Price: £3 on door, £2 in advance

Organiser: RAMCO International Exhibitions, 01-906 3363

8-10 May

The Electron & BBC Micro User Show

New Horticultural Hall, London

Details: Software, hardware and peripherals for Acorn's micros

Price: £3 adult, £2 children, £1 discount for advance booking

Organiser: Database Exhibitions, 061-456 8835

Prices, dates and venues of shows can vary, and you are therefore strongly advised to check with the show organiser before attending. *Popular Computing Weekly* cannot accept responsibility for any alterations to show arrangements made by the organiser.

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Still waiting

In *Popular Computing Weekly*, December 11, you stated, in a news article, that Maros Computers had been helpful in chasing down Johnson Enterprises for non-delivery of software.

However, I placed an order with Maros Computers at the beginning of January. When nothing arrived, I phoned them again and was told my parcel had been posted on January 7. They apologised and said another package would be made up and forwarded to me.

A week later, I phoned again, and was told the software had been sent the day before.

Two weeks ago, when I had still received nothing, and my Barclaycard statement showed a debit to Computerworld of £20.87, dated January 23, I wrote to them and said that if a satisfactory conclusion had not been reached within 10 days I would inform you. I have still heard nothing.

C W Hoggard
Poole
Dorset

A satisfied customer

I am writing this letter to say thank you to Maros Computers. I have in the last two years lost a large amount of money due to firms not sending out my orders or going out

of business.

I had put in an order for some items from Maros and as I had not heard for some time I was thinking, "there goes another lot of money", so I sent a letter to the director, who was most concerned. He was very helpful and within 48 hours, I had my order.

I can only say many thanks and I know where my recommendations lie now.

D W Wright
Telford

Commodores in Ireland . . .

Readers may be interested to learn about a new Commodore user group, called the Northern Ireland Commodore user group.

Users of all Commodore machines, not just the C64, are invited to join, and despite our title, we welcome members from anywhere in the UK.

We hope to distribute a bi-monthly magazine covering subjects such as games, hardware, software reviews, communications and interfacing and programming in Basic and machine code.

Most of the articles are written for beginners and so assume no previous knowledge of the subject. We may also be able to arrange discounts on Commodore hardware for members.

For the more serious user, we will also cover DIY hardware projects and computer repairs. Technical advice will be available to members.

Anyone interested should contact me at 3 Toberhewny Lane, Lurgan, Co Armagh BT66 7EE, Northern Ireland. Please enclose an S.A.E., or two first class stamps.

P Gilchrist
NICUG

. . . and in Karachi

I am pleased to have the opportunity to write to you to say that we have started a Commodore Users' Club in Karachi which provides free books and magazines, etc, to its members.

We have members in Saudi Arabia, USA, Australia and India. Membership is free for anyone who owns a Commodore 64. We also publish a weekly newspaper *Commodore News*. You can subscribe to this paper free if you become a member. If anyone is interested, write to us at D5 Maisam Plaza, Block 3, Gwshan-e-Iqbal, Karachi 47, Pakistan, for a membership form.

Adnan Ahmed Qureshi
Pakistan

Really WACCI

WACCI, the Europewide Amstrad CPC Users Club, announced this month

that the UK circulation of its club magazine, *The WACCI Newsletter*, has smashed through the 100 barrier.

The club, founded in September 1986, now has active branches in both Spain and West Germany, and plans are afoot to extend this coverage into France and Belgium in the near future.

Any CPC user who would like details of the club plus a free introductory copy of the club magazine can obtain one by sending a large (A4) self-addressed envelope to WACCI, 75 Greatfields Drive, Hillingdon, Uxbridge, Middx UB8 3QN.

WACCI

Liars and thieves

I am writing to inform you that the Commodore 64 program Rockfall which you published, starting February 12, was previously printed in *Your Computer*. It appeared in the September 1985 edition and was credited to Paul Hammond.

I fully realise that you constantly warn your readers not to send in other people's programs, as not only are they ripping off the original author, but they are also breaking copyright laws. I frankly regard people who do this as liars and thieves.

Darren Milburn
Aylesbury
Bucks

Puzzle

Puzzle No 249

I have six dice, marked not with the usual spots, but with the numbers 2, 3, 5, 7, 11 and 13. With these six dice there are 46,656 different throws possible. For example, if I were to add up the faces of the dice thrown, I would score 12 only once in 46,656 throws (on average).

Other scores, of course, would occur more frequently. Can you discover which score you would be most likely to throw with the six dice, and say what the probability is of getting this score?

Solution to Puzzle No 244

On a grid size 19 by 19, there are 164 differing sets of measurements.

On a grid of any size it is only necessary to test those distances from a corner dot to each of the other dots on the grid, since this will cover all smaller combinations of pairs of dots.

The distance between any two dots can be

calculated if the horizontal and vertical displacement between the dots is known, the distance being the same as the hypotenuse of a right-angled triangle with sides equal to the two displacement values. On a grid of order 19, these displacements will be from zero to 18.

This is computed by using the two loops X and Y. The direct distance (H) is calculated and is stored in the array. To save time and to avoid problems with using the square root, the value stored is actually the square of the required distance.

The array holds the squares of all 360 distances from a corner dot to each of the other dots on the grid. Lines 80 to 140 of the listing then scan the array for duplicated values, any being found has one of the pair cancelled.

Finally, the array is scanned again to count those values which remain.

Winner of Puzzle 244

This week's winner is D Pitts of South Cerney,

Gloucs, who will receive £10.

Rules

The closing date for Puzzle 249 is April 3. Answers should include a program listing if possible.

```
10 DIM D(361)
20 GRID=19
30 FOR X=0 TO GRID-1
40 FOR Y=0 TO GRID-1
50 H=X*X+Y*Y
60 D(X*GRID+Y)=H
70 NEXT Y
80 FOR F=1 TO GRID*GRID-1
90 FOR G=F+1 TO GRID*GRID
100 IF D(F)<>D(G) THEN 140
110 IF D(F)=0 THEN 130
120 IF D(F)=D(G) THEN D(G)=0
130 NEXT G
140 NEXT F
150 C=0
160 FOR F=1 TO GRID*GRID
180 IF D(F)<>0 THEN C=C+1
190 NEXT F
200 PRINT "Grid size: ";GRID;" Connections: ";C
210 END
```


The Atari alternative

I noticed, whilst reading through *Popular*, February 26, that in your Peek and Poke section, one of the enquiries was about using a third party monitor with the Atari ST. The reply given was that it was believed that only Atari's own hi-res monitor could be used.

This isn't actually true as a firm in Southend can provide a multi-frequency monitor that will work in all three resolutions. My understanding of the monitor is that the vertical hold has to be re-tuned after switching between mono and colour and that the mono screen is not quite as good as the Atari model due to the screen being of the masked rather than etched type, as used by Atari.

The up-side of this, though, is that the colour display is much better than Atari's colour monitors, being of such a high resolution. The major drawback to all this wondrousness is that it costs about £650.

The firm in question is A S and T, 87 Bournemouth Park Road, Southend-on-Sea, Essex SS2 5JJ, Tel: 0702 618201.

Mark Annetts
Richmond
Surrey

Our mistake

I would like to comment on the review in the Hardware section of *Popular*, February 12. The item being reviewed was a graphic tablet for the Atari ST or Amiga.

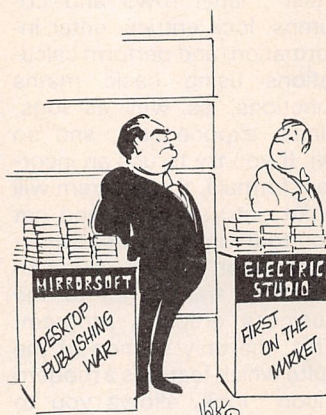
I was a bit surprised to see that the picture at the bottom left of the pages was one that I had drawn and uploaded on to Compunet a few weeks earlier.

Anyone reading the review would think that the picture had been done using the graphic tablet and an Amiga or ST, whereas it was actually done on a Commodore 128, using *Paint Magic* and a joystick.

I am sure, however, that the picture would have been a lot better drawn with an Amiga or ST. Any offers, Commodore or Atari?

L Grant
Manchester

Our apologies to L Grant. The gremlins had a field day and the screen pictures which appeared with the Hardware review of the Pro Draw graphics tablet were indeed from Compunet and used in error.



Help for the Lynx user

Regarding the question in Peek and Poke, February 26, about the Lynx micro from P M Volsing: believe it or not, there are still Lynx users' groups dotted around the country. I belong to NUTLUG (Newcastle Upon Tyne Lynx User Group) and I may be able to help answer P M Volsing's queries.

Software? Phoenix Software at Unit 70, Marsh Lane, Frodsham, Cheshire WA6 7BX, Tel: 0928 35525, has lots of software, including *Jet Set Willy*. It has also just brought out a Spectrum loader, and sells parallel printer interfaces. You can run a printer via the serial port with the appropriate lead.

CP/M will only run on the 128K Lynx, mainly because

A castling move

Back to Game One this week for the Readers and *Colossus's* choices at moves 13 and 14 in our chess tournament.

The Readers, playing black, opted for a castling move. *Colossus*, playing white, has replied by moving its f-column pawn (see diagram below for details).

Black is back

Now we need your suggestions for the next Readers' move. Send your suggested move to either Inter-Mediate (*Popular Chess*), Freepost, Sawbridgeworth, Herts CM21 9YA (you do not need to use a stamp with this address), or *Popular Chess*, Unit 2, The Maltings, Sawbridgeworth, Herts CM21 0PG (with a stamp). Please note that if you use Freepost, your entries must be posted promptly - Freepost is slower than paid-for mail. All entries must reach either address by Wednesday, March 18.

The move which gets the most votes will be entered into the game. Results and *Colossus's* response will be published in two weeks' time.

Prizes

A British Museum reproduction Arran chess set will go to

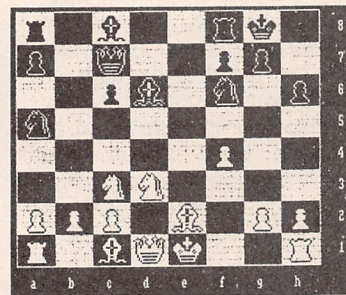
the person suggesting the most accepted moves at the end of the game. Five copies of *Colossus Chess 4* (available for most popular micros) will go to the most consistent entrants for the duration of the game.

Next week, we return to Game Two, where the Readers are playing white.

Game One

The moves so far:

- | | |
|-----------|--------------|
| 1 Pe2-e4 | Pe7-e5 |
| 2 Ng1-f3 | Nb8-c6 |
| 3 Bf1-c4 | Ng8-f6 |
| 4 Nf3-g5 | Pd7-d5 |
| 5 Pe4xd5 | Nc6-a5 |
| 6 Bc4-b5+ | Pc7-c6 |
| 7 Pd5xc6 | Pb7xc6 |
| 8 Bb5-e2 | Ph7-h6 |
| 9 Ng5-f3 | Pe5-e4 |
| 10 Nf3-e5 | Bf8-d6 |
| 11 Pd2-d4 | Pe4-d3 |
| | (en passant) |
| 12 Ne5xd3 | Qd8-c7 |
| 13 Nb1-c3 | Ke8-g8 o-o |
| 14 Pf2-f4 | ? |



the 128K machine has an 80 column VDU display, whereas the 96K/48K have only 40 columns.

There are still disc drives about, although these, as far as I know, will be second hand either from Phoenix or the 128K CP/M Lynx User Group.

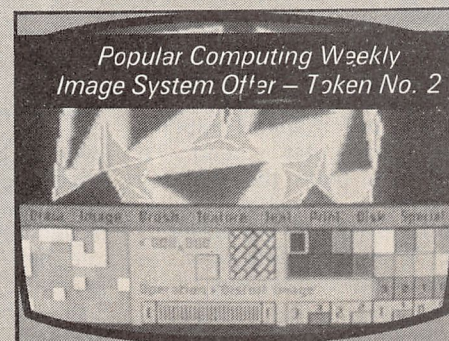
On monitors, we currently have one of our members using an Amstrad green screen monitor with both his 128K and 96K Lynxes.

This should answer most of the questions P M Volsing asked.

Colin Smith
Newcastle upon Tyne

Here is the second token in the *Popular* special offer on *Image System*. For full details, along with the first token and order form, see last week's issue.

We hope to bring you more special offers in the future, so be sure to keep buying your favourite magazine - *Popular*!



Business program of the year

Voted last year's best business program by Popular readers, Database's *Mini Office 2* has now been converted from the BBC to the C64.

Mini Office 2 is an integrated, menu driven business utility featuring a word processor, database, spreadsheet, business graphics package, label printer and communications program. It comes with a neat spiral-bound 80 page manual, and apart from a few oddities proved easy and enjoyable to use. Each program is loaded separately from a main menu; let's look at each part in order.

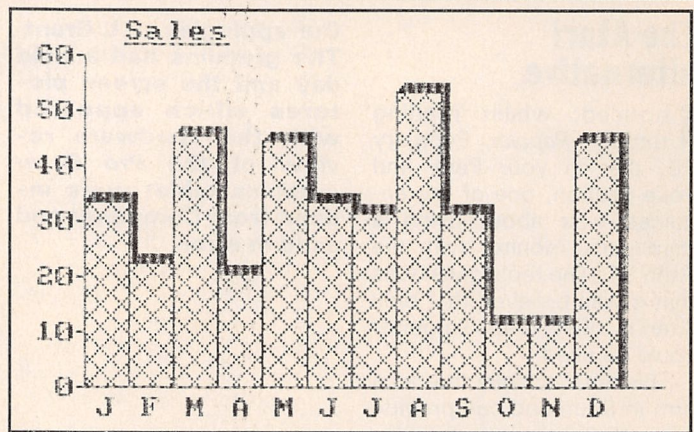
The word processor is a full-spec 40-column package, supporting MPS and Epson-compatible printers. Unlike, say, *Easy Script*, which operates largely by using commands embedded in the text, *MO2*'s word processor allows you to use either embedded commands or to set options from menus. Features provided are character/word/line delete, insert or overwrite, screen colours, keyclick on or off, block copy, search and replace, block move, convert case, page number, headers and footers, tab set, justification, screen preview, line spacing, page length, and, if you have a suitable printer, double-height or -width text. There are also some handy extras such as a constant word-count, time since start dis-

play, and a WPM count.

Control codes allow you to work with non-standard printers, while the mail merge facility works with the database. Overall the word-processor is fine, and since the package includes a converter program for old *Mini Office* files, it's attractive for users who want to upgrade. However, there are too many two-key control options to remember – why use CTRL, CBM, and the function keys to access different functions?

The database allows you to define a file structure with up to 20 fields of alphabetical, numeric, integer, date or other types of information. Having saved your form and centred your records – say a club membership list – you can move through the records, amend or delete, mark a set of records to produce a sub-file, sort files alphabetically by any field, and even perform simple calculations using integer contents of specified files. The database is, again, very easy to use once you have grasped the basic principles.

Spreadsheets have always been a bit of a mystery to me; basically they consist of a series of rows and columns in which you place numerical data. The computer can then be programmed to perform complex calculations, enabling you, for instance, to work out your annual budget, plan a holiday or calculate the cost of buying your children a



decent education.

MO2's spreadsheet allows you to set the length of each "cell", label rows and columns, lock entries, enter information, and perform calculations using basic maths functions, as well as logs, sines, exponentials, and so on. If you try to use an incorrect formula, the program will point out your error and get you to try again. Spreadsheet information can be saved to disc and transferred to the business graphics program. This, the only section of the suite which features a modern "icon" look, allows you to handle three sets of up to twenty labels and values. From these you can produce titled bar charts of either one, two or three information sets compared; line charts; or pie charts with optional emphasised slices in a selection of patterns. Very easy to use and great fun, but printing out on an MPS-801 is slow work.

The comms package uses either an RS-232 or Compu-net type modem at 300 or 1200 baud. Default settings allow you to access Microlink and Telecom Gold, while you can define buffer, protocol and display options for other

systems.

Finally, the label printer option can be used with the word processor, or on its own, to print out labels at definable sizes, spacing and format. The manual includes a summary of commands for this, as well as all the other programs in the collection.

Mini Office 2 is reasonably easy to use, very comprehensive, and offers all the facilities most home users would ever want. The manual is good, apart from a lack of information for beginners on formatting and using data discs. Apart from the odd bit of sloppy programming – such as exploded pie charts overprinting the key beside them – the whole system seems to work well, and offers excellent value for money. I can't think of a better collection of C64 programs of this type at the price.

Chris Jenkins

Program *Mini Office 2*
Micro C64 Price £16.95
 (tape), £9.95 (disc) **Supplier** Database Software,
 Europa House, 68 Chester
 Road, Hazel Grove, Stock-
 port SK7 5NY.

Desk top publishing made easy and fun

Pagemakers are of course programs designed to let you create facsimiles of newspapers and magazines by mixing text (in a variety of fonts) and graphics on a computer screen. To create a page the working screen is somehow 'enlarged', usually by the ability to scroll in four directions, to match the dimensions of an A4 page.

By tradition the software is

"AMX is generally easy to use and capable of high quality output"

worked by a mouse and you therefore have to put up with the inevitable 'cheese' – a collection of mystifying little graphic icons that are supposed to make it all easier to use. Once completed the pages are printed out in as

high a quality as your printer can manage.

There is quite a saga associated with the history of pagemakers on the CPC. AMS and Mirrorsoft have been thrashing it out for well over a year to see who would be first to

release their program and many wildly optimistic claims were made in adverts and at shows. It has to be said that AMS were guilty of far more incidents of 'optimism' than Mirrorsoft. Perhaps they needn't have bothered because theirs is now out and there is still no sign of *Fleet Street*.

But cynicism aside the AMX package is generally **continued on page 13 ►**

◀ continued from page 12

very easy to use, powerful within the limitations of the hardware, and capable of high quality output.

The graphics options provided are really quite good, although a mouse is needed to get the best from them. Specialist drawing utilities or a digitiser can be used instead though, to produce higher quality pictures. You are provided with an option to convert any screens into mode two suitable for inclusion. Once loaded a picture can be copied, scaled or defaced. Special modes exist for mixing and merging graphics, or text and graphics, to get all

sorts of clever effects.

No matter how good the graphics options are, they still rely on the talent of the user. One of the points that the original *Fleet Street* had over *Pagemaker* on the BBC was that the former came supplied with almost no clip art (ready drawn pictures which you can use to decorate your page). The CPC *Pagemaker* has a considerably improved selection, you don't get many pictures but some have been produced by a digitiser and are very good indeed. More support discs are promised.

Pagemaker has always scored over the equivalent *Fleet Street* in the flexibility of

its text positioning. Text can be typed in at the keyboard in the current font or read from a word processor file. The CPC version has a very clever option for the latter where the words automatically 'flow' into the available space bounded by any lines on screen – rather like a graphics 'fill' command. Very clever displays are made simple by this option. There are a wide range of fonts in varying sizes supplied – these can be scaled up or down if you wish but tend to lose clarity if you do so, although a zoom option allows you to tidy these up somewhat.

Printing can be in draft, high quality or very slow ultra high quality mode. One nice touch is that pages can be produced in A4 or A5 size or you can obtain a simple dump of the current screen.

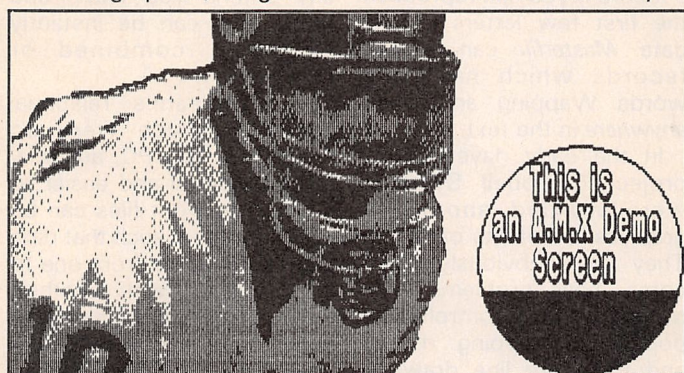
Pagemaker was originally written for the BBC and memory limitations meant that the program was released on Rom form. The CPCs can also support Rom software but the market is limited to those who have

invested in a suitable extension board. AMS have therefore taken the decision to make the program available only to those who have a disc drive and 128K memory. More proof that a DKtronics Ram board is an essential purchase for 464/664 owners.

The *Pagemaker* release I saw had one or two minor bugs left in it. There is no point about detailing them since I understand that the company is well aware of them and offers an upgrade service to existing purchasers.

I admit to being frivolous but I find this program has a dangerous fascination. It is versatile yet not complex and produces output easily good enough for schools, clubs or just brightening up the office.

Tony Kendle



Program AMX Pagemaker
Micro Amstrad CPC
Price £49.95 Supplier
 Advanced Memory Systems, 12 Wilderspool Causeway, Warrington.

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POP 1

The masterly Masterfile

Masterfile is easily the best database available on the CPC micros short of some £400 CP/M monoliths. I've waited a year to see *Masterfile 8000* on the PCW – now that it is here has it lived up to my expectations?

Databases fall into two broad categories. There are those, like dBase, that can be programmed like a computing language.

They allow the user to create specialist applications to suit particular needs. The second type, like *Masterfile*, is essentially based on a card index file – simpler to use, but less flexible.

Beyond these classifications the programs are more variable than people suppose. The basic capabilities of a word processor are fairly predictable, but many people have spent a lot of money on a database only to find that it doesn't do what they need. They have different maximum record sizes, different methods of storing information, different abilities for presenting and printing data, different options for manipulating the information.

To be fair I must first note *Masterfile's* statistics and its one or two weak points. Firstly it does not allow you to easily automate any regular updating process, although changes to data are now very easily achieved by editing the data as it is displayed. Printing options are vastly

improved over the older versions of the program but, unlike some databases, you can only do mail merge etc, if you use a word processor as well.

Masterfile's maximum file size depends on the size of your memory drive; 110K on an 8256, maximum record size is just over 2K, there are up to 80 fields per record and the maximum field size is 250 characters.

Having lost the few readers to whom these minor limitations are critical I can confirm that for the rest of us *Masterfile 8000* is a *tour de force* that will spoil you for any other program. For months I have searched in vain for a PC utility that can do the same things that *Masterfile* can on the PCW.

Masterfile stores all of its data in Ram which makes it lightning fast when sorting or searching. Particularly clever is its ability to store information of variable length without wasting any space.

The other feature I cherished from the original was its data search. Not only do you have the standard options, such as Name=Smith or Age>18, but there is a very powerful global string search. Say you want to find a name and address but you can't remember all of the details ('Dave Somebody – lives in Wapping!'). The name will probably be filed Surname first and the address with the number and street-name first.

EXAMPLE 01: BOOK COLLECTION

-----5555555-----

06: Format Review

Insert element.....I
Change this one.....C
Erase this one.....E
Show next.....N
Move menu.....M
Show in stages.....S
Toggle data zones.....Z
Printer options.....P
Display mode.....D
Exit.....X

Small collection of Children's Books.

An author has two formats, in addition to Format 0, Format 1 shows Author and Title, one record per line. Details of a book, 1 record per screen. From Format 1, at any record. Then [R] to switch to Format 2, to see book. This is a useful 'trick' to incorporate into the panel which gives a key to the Date Suffix.

This is defined as a heading when constructing the format, and is useful in explaining constant codes or notations that you use in your data.

Why not sort the displayed fields into Title sequence? From menu 01, [D] then rotate [R] to Format 1. Then [K]. Specify data name 2, then [ENTER]. Give a key length of 10. After a few seconds, the sorted data will be displayed.

Drive:A File:X01BOOKS Records:00107 Selected:00107 Key:Author Format:5

Most databases will only find a record if you can reproduce the first few letters of the data. *Masterfile* can find all records which have the words Wapping and Dave anywhere in the text.

In the early days of this project Campbell Systems were worried about the graphics limitations of CP/M. They have obviously overcome these problems. The program is now controlled by pop-up overlapping menus and there are line drawing, large text and fill options for decorating your data display. Some of the demonstration files are almost cheeky in the way they flaunt these new abilities.

One minor irritation of the original versions was that you had to define a display format before you could review the data you had typed in. A new option is a simple, permanent, format that lists the data. Other brand new features include a calculation function whereby new data can be produced from existing figures using a mathematical formula. Date records are also allowed now which can be another useful way of searching the data.

One field in the file can be set as a key by which the data is automatically sorted. You can at any time re-sort by another field, something else that, as far as I know, is unique to *Masterfile*.

Masterfile has always been flexible at selecting a working set of data. Any record that meets your search criteria can be added to, or removed from, the currently active display. This option has been greatly improved by the ability to define up to eight sets

of active records, based on any criteria you wish, and these sets can be instantly switched, combined or redefined.

The program's relational features, which were so unique on the CPC, are now more powerful and easier to use. Up to eight files can be linked together such that data can be extracted from one to be displayed with another. For example a file of customer names and addresses need only be typed in once but can be read and displayed by a file of orders, a file of dispatches, a file of customer complaints and so on.

The disc comes with ten example databases that are very useful demonstrations of the program's options, and cover a wide range of typical uses so they can be immediately cannibalised for your own use. To underline *Masterfile's* flexibility: the readme file, giving latest information, a file full of troubleshooting tips and an index for the manual are all provided in the form of databases.

The final feature I cannot overemphasise is that the new *Masterfile* is fundamentally easier to learn and use than the old versions. It has been substantially rethought to be quicker and more obvious to use. It also holds more data, has more power, and I've no doubt it will have many more satisfied customers.

Tony Kendle

Program Masterfile Micro Amstrad PCW Price £49.95, Supplier Campbell Systems, 7 Station Road, Epping, Essex CM16 4HA.

EXAMPLE 02: CLASSICAL RECORD COLLECTION

03: Display Options

Steer using.....←→
Alter data.....DEL
Assign to set.....A
Unassign set.....U
Calculate.....C
First page.....B
Next page.....ENTER
Back one record.....ALT
Find (by = or >).....F
Go to record number.....G
Print.....P
Print single record.....D
Erase record.....E
Insert new record.....I
Show re-sequenced.....K
Rotate format.....R
Go to search.....S
Exit to main menu.....X

This example uses two Secondary files - one for performer. See Format 1. Note that you would different tack for cataloguing larger musical works and so on. You would probably design a record per screen, and using extra Data Names (Conductor, Choir Name, Tenor, for example).

Note that the records are displayed in Record Number of the Primary file. Try sorting on Composer Key wrong place because JSB sorts after BAR (for Bach).

To ensure that you understand how Secondary File add a composer to the Composer file, then add a refers to it onto this file.

Drive:A File:X02CLASR Records:00005 Selected:00005 Key:Record Number Format:5

Advancing the art of Atari

The most impressive sensibly-priced Atari ST graphics package, Rainbird's *Advanced Art Studio* bears little resemblance to the versions for other micros.

The program was originally conceived as a sprite designer but, as well as offering marvellous design facilities for games programmers, also has animation, drawing and colour cycle facilities unavailable in packages costing twice as much.

The main screen is the sprite design area, where sprites from 8x8 to 64x64 pixels can be created. The sprite grid is on the left, and forty function icons on the right. Some rival products, like *Degas Elite*, use text labels for functions. Some, like *Paintworks*, use incomprehensible icons. AAS provides the best of both worlds by having a few lines of explanatory text popping up in a window each time you select a new function icon, making the program easy to use while retaining the facility of icons and eliminating the need for pull-down menus.

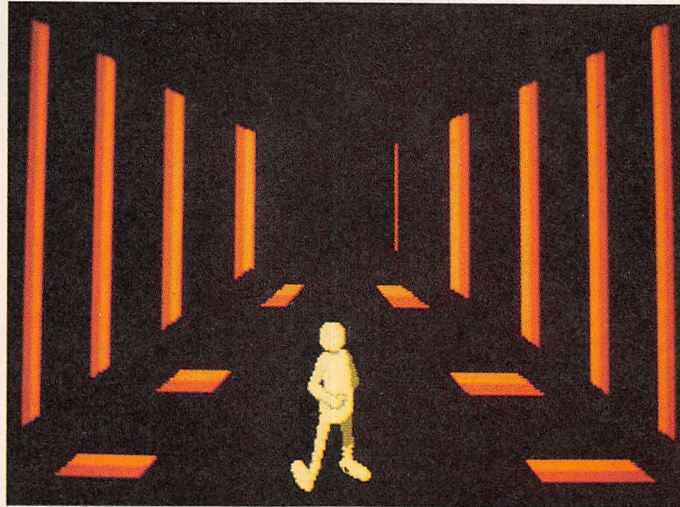
If you need to work in normal drawing mode rather than magnify mode, there are two blank screens available. One can be used as a "scratch-pad" to create brush shapes, which can be transferred to the other screen, or to the

magnify screen for further editing.

Below the icon boxes is the brush area. This displays all the currently available brush shapes and is also used to set the colour palette. You can also click on different points

copy, rescale, fill, cut and paste and undo. Advanced facilities include "anti-aliasing", which allows you to create soft-edged effects by merging colours within a definable boundary.

The best part is that these



Take a walk on the wild side, but . . .

on the brush menu to set the start and end colours, or brush shapes, for colour cycling or sprite animation. Each brush is in fact a sprite (and vice versa), making it possible to produce amazing effects like brushes changing shape as you draw, combined colour cycling and animation, and so on.

Conventional drawing facilities include freehand, line, box, circle, polygon, outline,

facilities operate not only on the drawing screen, but also on the magnified window, too. This simple facility puts *Art Studio* leaps and bounds ahead of its rivals.

If you prefer to work in normal mode there are two simultaneous work screens to play with: they are completely blank and you can create designs on them and transfer to the magnify page easily. You can even edit the

control screen, drawing yourself new icons or setting new default brushes and modes.

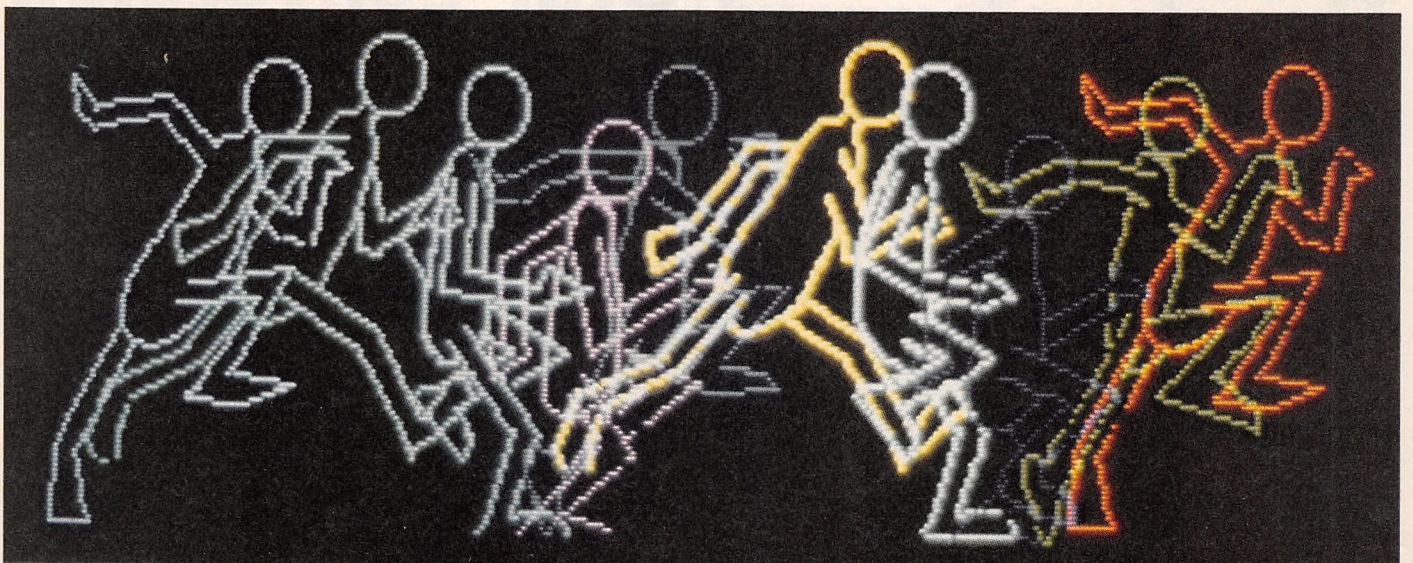
Art Studio is Neochrome file compatible, and despite not having some of the mono exotic (and unnecessary?) features of *Art Director* such as scrape and melt, is an incredibly good package both for "painters" and programmers. Sprite files can be downloaded into your own programs via RS232 - you could even use *Art Studio* to design sprites for a Spectrum, Commodore 64 or Amstrad, given the technical details included in the manual.

Although Mirrorsoft's *Art Director* offers more facilities, and *Degas Elite* is very simple to use, the ST *Advanced Art Studio* beats them both on price and, in many ways, performance. The finished package will come with a comprehensive manual and plenty of sprite, font and brush files on the program disc.

For programmers, doodlers and serious artists, Rainbird's *Advanced Art Studio* looks like the most desirable ST graphics package yet.

Chris Jenkins

Program *Advanced Art Studio Micro* Atari ST
Price £24.95 **Supplier**
Rainbird, 64-7 New Oxford Street, London W1A 1PS.



. . . Run (don't walk) to your nearest Art Studio supplier

Smooth moves

Strange to think that just one minute ago I was blasting strange, bird-like craft out of the sky on the same green screen that I'm now using to write this review. Strange too, that Alan Sugar's first specifically non-games machine has turned out to have such amazing leisure potential.

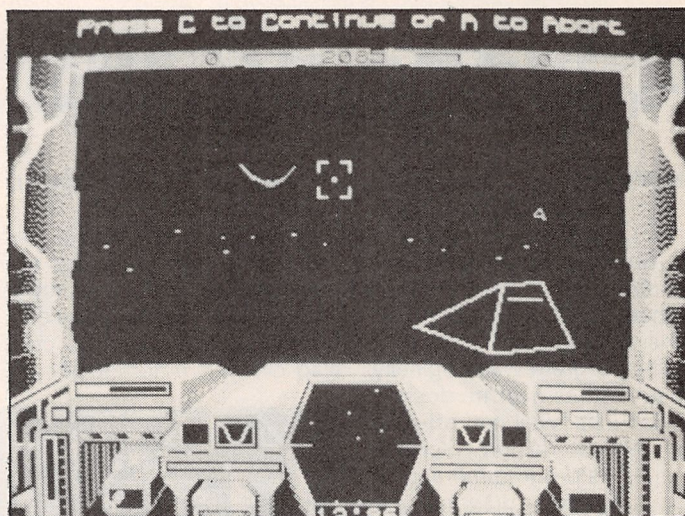
For anybody who doesn't know about *Starglider*, I have only one thing to say – where have you been all this time?

Not enough? Okay then, *Starglider* is described by Rainbird as a simulation, though you might quibble about whether you can simulate something that is pure science fiction. But the fact remains that it's a fine combination of air to ground and air combat with some of the complexities of a flight simulator and a definite need for strategy thrown in.

While there are a handful of controls to be learnt, and a lot of reading if you want to deduce every detail of what's going on, using the enclosed novella, *Starglider* remains addictive because of its speed and the smoothness of its 3D line graphics.

Congratulations, therefore, to conversion programmers, Real Time, who have retained all of those elements that keep the adrenalin flowing, and have even managed to squeeze some sound effects out of the Joyce's puny buzzer. The vector 3D is crisp and clear, and the care that's been taken is seen in the way that objects become brighter as they come closer.

Care has also been taken with the controls. The keyboard layout is sensible, but can be re-defined. Owners of AMX or Kempston mice are also catered for, and Kemp-



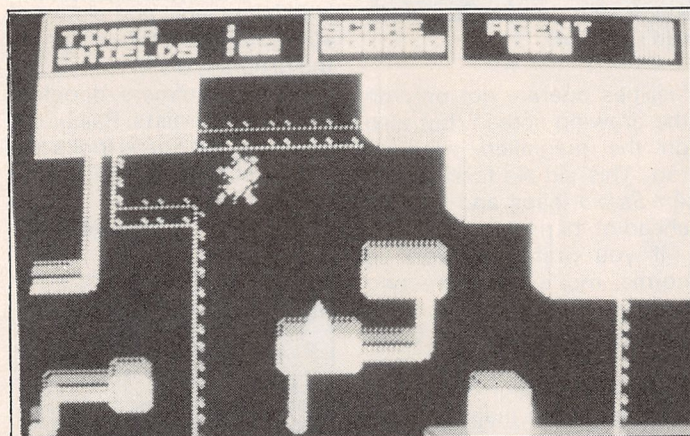
ston or Joyce-stick players can control both elevation and speed without recourse to the keys, thanks to an option which lets you to use the stick with and without fire to different ends.

This conversion is far better than anybody could have dared expect. Any Joyce owner in search of an intelligent shoot 'em up, set in the eerie green depths of PCW

space, will have a field day here. Now it's out with LocoScript and back to the action for me!

Popular Appeal ♦ ♦ ♦ ♦
John Minson

Program Starglider Micro
PCW 8256/8512 **Price**
£24.95 **Supplier** Rainbird
Software, Wellington
House, Upper St Martins
Lane, London WC2H 9DL.



Thrusting forward

And lo, it came to pass that Captain Berk dragged himself from the USS Spectrum's main VDU and ordered a sequel to his favourite game with the immortal words, "More Thrust, Snotty!"

And more *Thrust* is just what he's got, with enough new features to guarantee that even if you mastered the original, you'll have a hell of a time on the planet P2112.

As before, the ship has just three controls for rotation and thrust but to make life really tricky, the orbs that you're collecting are of different

masses, so it's only when you've picked one up that you can tell how it will affect the craft's handling.

The orbs are also unstable, so you can't hang around or they'll explode while you're still carrying them. The problem of fuel consumption has gone, but don't rejoice for too long because it's been replaced by alien androids, who bounce up and down and float around and make the underground installations of P2112 a generally unhealthy place.

Keep an eye open for boxes of chemicals though. They

may prove efficacious against certain androids. Once you've picked up the correct agent you can use it as a sort of smart bomb to eradicate the relevant alien once and for all.

The landscape itself is very similar to the original's, packed with treacherously difficult corners to drag the swinging pods round, and the whole program is as fiendishly difficult as before. There's

more play value in this than some full price games I can think of. Don't hesitate to buy it!

Popular Appeal ♦ ♦ ♦ ♦
Paul Varsky

Programs Thrust II Micro
Spectrum 48K/128K
Price £1.99 **Supplier**
Firebird 64-76 New
Oxford Street, London
WC1A 1PS.

Star conversion

An excellent conversion of the Atari 8-bit original, *SunStar* has a touch of several familiar games about it, while managing to remain quite original.

Taking place on a special grid presented in realistic perspective, *SunStar* is all action. It involves you guiding a ship around the grid collecting white energy pulses; first chase them down using your local scanner and grid map, then zap them, then run over the resulting green crystals.

To complicate things there are impenetrable walls, fuel limits, and the odd rogue energy pulse which will sizzle your circuits.

To progress to the next level you will have to pass through the moving entrance to the warp gate, and shoot the warp extruder inside; then it starts all over again.

Fast, colourful, quite difficult; it would have made an excellent budget game, but at £8.95 I think the initial excitement may wear off before you have your money's worth.

Popular Appeal ♦ ♦ ♦ ♦
Chris Jenkins

Program SunStar Micro
CBM 64 **Price** £8.95
Supplier CRL, 9 King's
Yard, Carpenter's Road,
London E15 2HD.

Shoot the reds

With old Ronnie in difficulties at the moment it's nice to see the software industry doing some PR work to help him out. The program of which I speak is *SDI*, the latest in Mindscape's Cinemaware series.

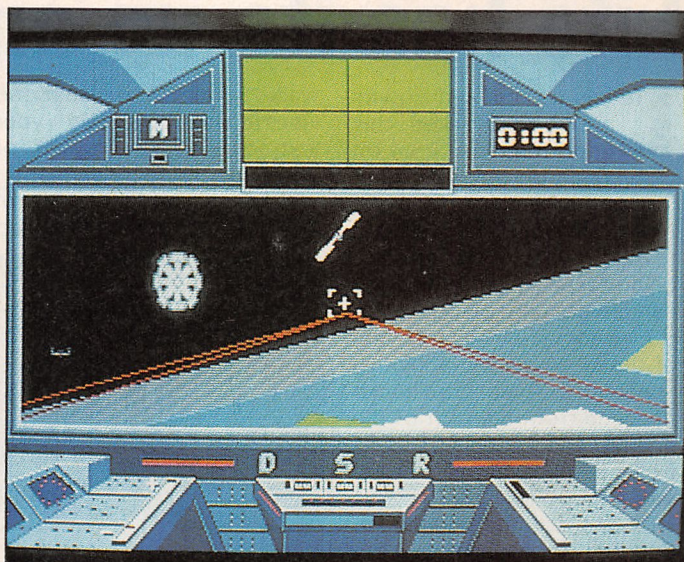
The storyline casts you as a young General, at the time when *SDI* goes operational. The KGB, not liking this, decide to stage a coup in the Soviet Union and then launch fighters to attack your orbiting lasers. Having knocked out a few lasers they launch their missiles to finish off the good old US of A.

Your part in this drama is quite large. Single-handedly you must go forth in your spaceship and blast the commie fighters, all presented in a sort of 3-D perspective. Unfortunately, the animation and graphics are fairly poor, your ship lurches about all over the

place.

Whilst flying about you can repair or replace damaged lasers, and dock with either the US or the USSR space station. After beating off most of the Russian fighters it's back to the US station where you get to direct laser fire at the incoming missiles. This section would look all right as a Vic 20 program.

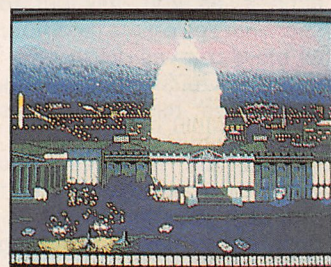
If you manage to fend off enough missiles you receive a call for help from the Soviet space station. This is where a third of the arcade section comes in with, and I quote, "A heroic mission to rescue your Russian lover from a barbaric KGB torture squad." Budding Rambos must then dock with the space station and fight their way through hordes of KGB operatives in another 3-D sequence which, although quite pretty from a graphics point of view, is about four years out of date



as a game.

SDI features a few good graphic backgrounds but falls down completely, ignoring the politics of the plot, on the actual game sections which are simply dismal.

Program *SDI* Micro Atari
ST Price £45.95 **Supplier** Mirrorsoft, Maxwell House, 74 Worship Street, London EC2A 2EN.



Popular Appeal ♦♦
Duncan Evans

Komani meets its Nemesis

Komani have been brave to try and go it alone with their coin-ops – first *Jail Break* (creditable on some formats, not on others) and now the Big One, *Nemesis*.

In the arcades, *Nemesis* was a development of the old classic *Scramble*, with extra features and hi-res graphics. It did phenomenally well there, but does it convert to the home format?

Again, the performance on different format varies greatly. On the CPC, although the

design has been captured well with some impressive animated graphics in parts, at times the horizontal scrolling leaves a little bit to be desired, and the game slows right down. As for the collision detection, on CPC it seems to have been done by the character square, which means those pixel perfect manoeuvres don't always work.

The Commodore 64 version is much better – generally faster and smoother – but even so has the odd glitch

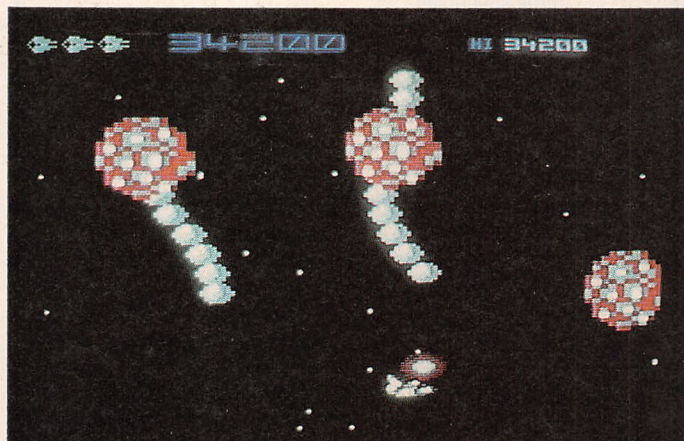
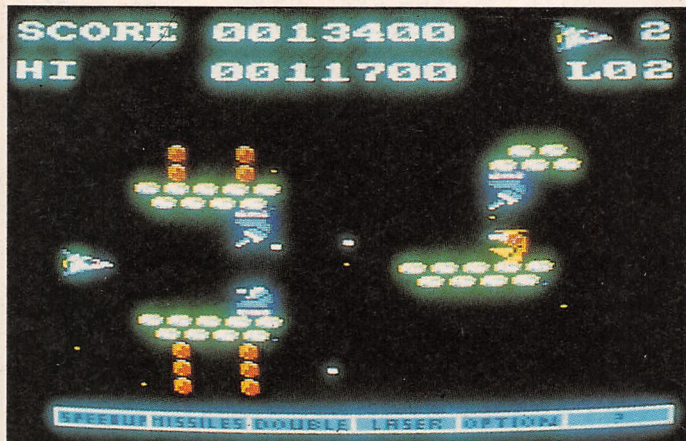
that you wouldn't expect; just after you die you get a quick flash of the undefined screen, for instance. Nothing fatal though – and the action can get addictively furious.

A nice effort by Simon Pick, except for the fact I recently saw the new Thalamus game, *Delta*, in its final stages. It is a *Nemesis/Salamander* clone... and regretfully for Komani, it's a lot better. Even faster. Even smoother. Even better designed. In fact, they've out Komani'd Komani.

On Spectrum and CPC, however, given the limitation of the machines, *Nemesis* isn't bad – more of a respectable conversion than a classic, though.

Popular Appeal ♦♦♦♦
John Cook

Program *Nemesis*
Machine Spectrum/CBM 64/CPC **Price** £7.95 (Spectrum), £8.95 (other)
Supplier NMC, PO Box 67, London SW11 1BS.



Life has its up and downs

Life has its ups and downs and I really liked this unpretentious coin-op conversion on the Spectrum. But the C64 version hits a real trough. It looks like it's been rushed out, with no real care being taken to reproduce the earlier version's playability.

Elevator Action boasts one of those simple but addictive scenarios. Agent Otto has to descend from the roof of the enemy HQ, stealing plans from behind certain doors, while shooting the guards who are all out to get him. Success depends on fast reactions, as you only get to see what lies on the next floor as the lift moves down.

With its music and graphics capabilities, this should have been a natural on the C64. Instead it's a mess. The doors Otto has to enter aren't red, as it says in the instructions – they flash. According to those same instructions, Otto enters a door when you push down – in fact it's up. There's an enemy agent who

walks in thin air. At least one lift refuses to obey your instructions. The layout of secret doors never varies.

Need I continue? All of these failings are magnified

by comparison with the Spectrum version, which even featured nice touches such as Otto descending to the roof by helicopter at the start. I suspect that the Commodore

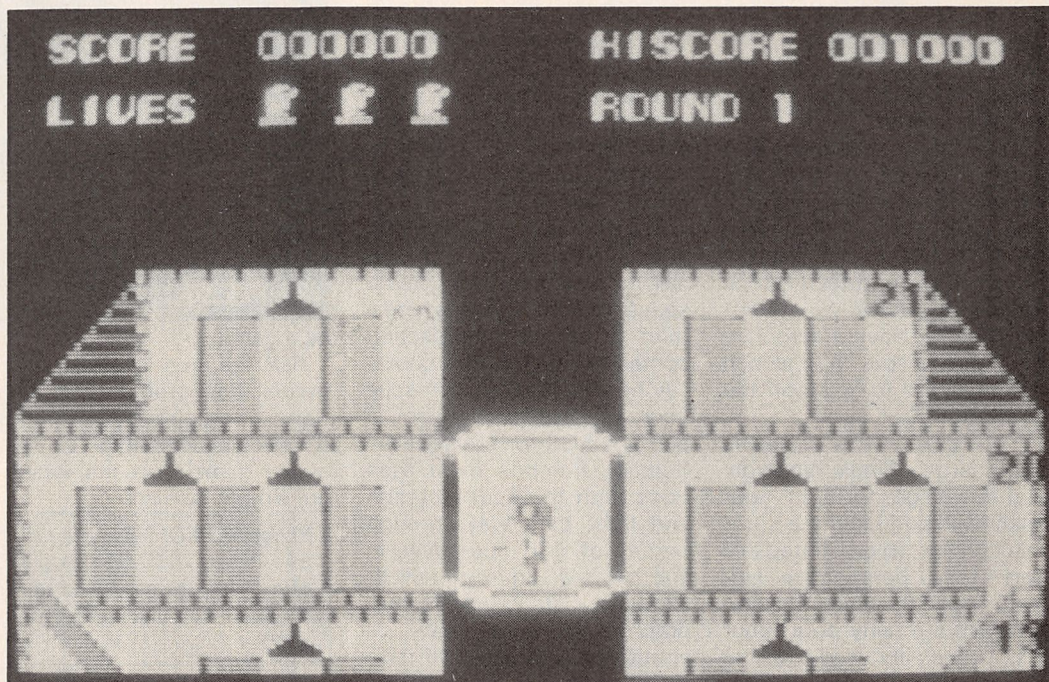
conversion team was infiltrated by the enemy.

Popular Appeal ♦

John Minson

Program *Elevator Action*
Micro C64 **Price** £8.95

Supplier Quicksilver, Victory House, Leicester Place, London WC2H 7NB.



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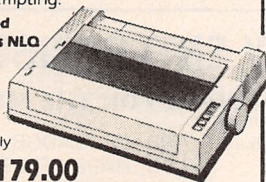
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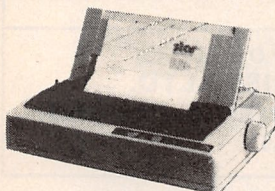
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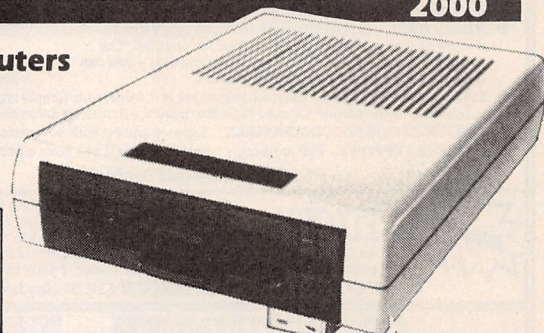
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The galaxy of Commodore games

Tony Kendle passes along C64 tips from reader Martin Pugh

Good news for Commodore owners! This week we are going to concentrate on the promised tips from Martin Pugh which cover many of the very best games released for that computer over the last year.

Up 'n' Down (US Gold)

Type *Load* to get the game loader into the computer. When *Ready* appears type:

POKE 1011,248
POKE 1012,252
RUN

The game will now finish loading and the computer will reset allowing you to enter the following poke.

POKE 36103,173

for infinite lives.

SYS 64738

to start.

Speed King (Mastertronic)

POKE 43,3: *Load*

When *Ready* appears type:

POKE 43,1

Then enter the line

20 IF F=3 THEN POKE 35863,234 : POKE 35864,234 : POKE 35865,234 : SYS 34816

Then enter *Run* to load and run the game. The sprite to sprite collision has been turned off allowing you to go through the other bikes without crashing – like the computer bikes do.

Booty (Firebird)

POKE 43,3 : *LOAD* to load the game loader. When *Ready* appears type:

POKE 43,1

Then enter this line to turn off sprite to sprite collision:

120 POKE 22224,234 : POKE 22225,234 : POKE 22226,234

Enter this line for infinite lives:

121 POKE 21003,234 : POKE 21004,234 : SYS 16373

Run to load and run the game.

The Demons of Topaz

POKE 43,3: *Load* to load the loader.

When *Ready* appears type:

POKE 43,1 : POKE 808,237
NEW

Now enter this listing:

1 POKE 32776,0 : *LOAD*
2 POKE 32776,0 : *LOAD*
3 POKE 32776,0 : *LOAD*
4 POKE 32776,0 : *LOAD*
5 POKE 32776,0 : *LOAD*

When *Ready* appears, enter *Run* to load the game.

SYS 64760

POKE 10519,255

for 255 lives

(SYS 14336)

then press *Run/Stop* and *Restore* to start.

Flash Gordon (Mastertronic)

These are not strictly cheat pokes but they do offer a feature that is not included in the game – the opportunity to practise *Stage 2* and *Stage 3*.

When on the stage you wish press *Run/Stop* and *Restore* to get the *Ready* message.

Then enter:

SYS 0

Then

SYS 16384 for *STAGE 2* or

SYS 32768 for *STAGE 3*

You only need include the SYS 0 the first time you try this. For subsequent games it can be omitted.

1985 (Mastertronic)

Load the game and then reset the computer.

POKE 24011,169

POKE 24012,254

POKE 24013,234



These pokes turn off the sprite to background collision detection allowing you to fly through the landscape without loss of life.

Psi Warrior (Beyond)

Type in and *Run* this listing. When the *Tape* message appears play the game tape.

1 SYS 63276 : POKE 783,1 : POKE 831,255 : POKE 832,2 : SYS 62828

2 POKE 749,226 : POKE 750,252 : POKE 770,167 : POKE 771,2 : POKE 776,167

When this has finished type:

POKE 8984, (0-255)

Initial Psi and Id energy

SYS 12288

to start.

Galaxy

Type in and *Run* this listing. When the *Tape* message appears play the game tape.

1 SYS 63276 : POKE 783,1 : POKE 831,255 : POKE 832,2 : SYS 62828

2 POKE 749,226 : POKE 750,252 : POKE 770,167 : POKE 771,2 : POKE 776,167

When this has finished loading type:

POKE 2706, (0-255)

for the number of lives.

SYS 2061

to start.

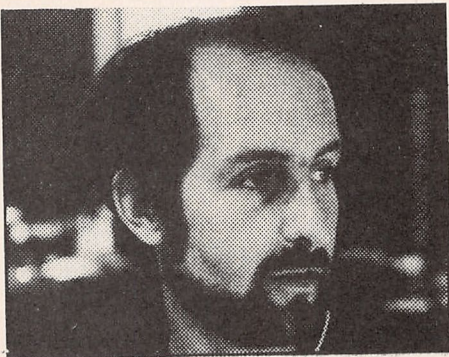
Charts

Top Twenty

- 1 (–) Bomb Jack 2
- 2 (1) Gauntlet
- 3 (2) BMX Simulator
- 4 (3) Paperboy
- 5 (6) Ninja
- 6 (13) Feud
- 7 (10) Leaderboard
- 8 (5) Konami's Coin-op Hits
- 9 (8) 180
- 10 (7) Footballer of the Year
- 11 (11) Computer Hits Vol 3
- 12 (6) Ollie and Lisa
- 13 (14) Hit Pack
- 14 (9) Fist II
- 15 (–) Five Star Games
- 16 (–) Cobra
- 17 (15) Agent X
- 18 (–) Arkonoid
- 19 (16) Space Harrier
- 20 (12) Park Patrol

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- Elite
- US Gold
- Code Masters
- Elite
- Mastertronic
- Bulldog
- Access/US Gold
- Imagine
- Mastertronic
- Gremlin Graphics
- Beau Jolly
- Firebird
- Elite
- Melbourne House
- Beau Jolly
- Ocean
- Mastertronic
- Imagine
- Elite
- Firebird



The magazine scene

Tony Bridge leafs through the various adventure game-specific magazines now on the market

Every so often I take a look at the adventure magazines that are around at the moment. I say "at the moment" because they tend to come and go fairly rapidly. The most important ones manage to survive for several reasons. The most important one is that the people running them don't seem to be out for personal glory or gain (as some are) and they don't talk down to the readership. A necessary part of a successful magazine is to involve the readership, and the more successful magazines are the ones that do just that.

One pair of magazines that I personally enjoy are *Adventure Probe* and *Adventure Contact*. Edited by Pat Winstanely and Sandra Sharkey, they are published monthly and cost £1 each.

Adventure Probe is the one to buy if you're having trouble playing adventures. You'll find reviews, letters from fellow sufferers, hints, maps and solutions. If, on the other hand, you are into writing adventures, then it's *Adventure Contact* you're after. The 50-odd pages here cover all the questions you may have regarding marketing and presentation of your game, as well as inside information on the *Quill* and *GAC*.

If you want to get in touch with the editors of either magazine, the addresses are given at the end of this article.

From magazines to books: one that has been around for some while is *The Adventurer's Handbook* from H&D Services of Manchester. This started life as a few slim pages of typed hints and tips, and has now blossomed into a very glossy, 78-page encyclopaedia, beautifully bound in shiny card. It has been renamed *What Now?* and contains step-by-step solutions for a veritable A-Z of adventures (from *Aftershock* to *ZZZ* along with reviews, news and a number of special offers on software. Recently, H&D have been expanding their field of interest and now include reviews of strategy and war games. The price is a bit steep, but it is certainly an extensive effort and will offer you hours of reading. I hesitate to repeat things about "stunning value", but the address is given below if any of you are tempted.

Magazines aren't just printed on paper these days, and if you're looking for something a bit unusual, there is *The Spectrum Adventurer* available on tape. I know I've mentioned them before, but I've just been sent Tape No.9 and it's

worth talking about. For just £3, you get hints, news items (though they really aren't anything new), a quartet of reviews and a bit of chat from the man who produces the thing, Andy McGregor. I still hold hope that more use will be made of the medium, but so far there are only a few special effects (rising and falling beeps, and selected words repeated up and down and across the page). I was hoping for some screen shots from graphic adventures, or quotes or some other snazzy graphics. The format does mean that quite detailed hints and solutions are offered (most of them from John Wilson who also appears in many other adventure magazines), though in this edition they cover only four games. So there isn't anything that cannot be found elsewhere in the (cheaper) paper magazines.

Except, that is, for the adventure included on the tape. Dr. Goo is a time lord played by you who is sent to find the

once-good-now-turned-evil Dr. X. The story doesn't have a flashy title screen, but the character set looks good. It's *Quilled* (and credited) with Ram save/load, there are (almost) no spelling mistakes and it is well presented and laid out. I haven't delved too deeply into the game itself, but for an adventure to be included with all the rest, for £2 you can't go far wrong. I hope that in the future Andy starts to use the medium to its full potential, but in the meantime, this is a good tape to have handy for those awful times when you get stuck.

Adventure Contact, 13 Hollington Way, Wigan WN3 6LS.

Adventure Probe, 78 Merton Road, Wigan WN3 6AT.

What Now?, 1338 Ashton Road, Higher Openshaw, Manchester M11 1J6.

The Spectrum Adventurer, 4 Kilmartin Lane, Carlisle, Lancashire ML8 5RT.

Adventure Helpline

Knight Tyme on Amstrad CPC. Put in co-ordinates for transporter but reply is always broken down. Unable to go any further. S. Jackson, 7 Nut Tree Close, East Huntspill, Somerset TA9 3PN.

Action Biker on Atari. Cannot get past drag race. Gary Cox, 27 Green Lane Estate, Pudding Norton, Norfolk NR21 7LT.

Spiderman on BBC B. How do you defeat Hydroman and how do you run printing press? Alex Meyer, Leaton Hall Farm nr. Bomere Heath, Shrewsbury,

Salop SY4 3AD.

Lord of the Rings on Spectrum +2. How do I get into the ferry and cross the river? Hayden Price, 96 Manor Road, Deal, Kent.

Fourth Protocol on C64. Any help on Part One appreciated. Terry Crimbleby, 18 Downfield Avenue, Hull HU6 7XF.

Spy Trek on Amstrad CPC. What do I do at the ski lift? Mark Griffiths, 327 Tarbock Road, Nuyton, Merseyside L36 OSD.

Adventure Helpline

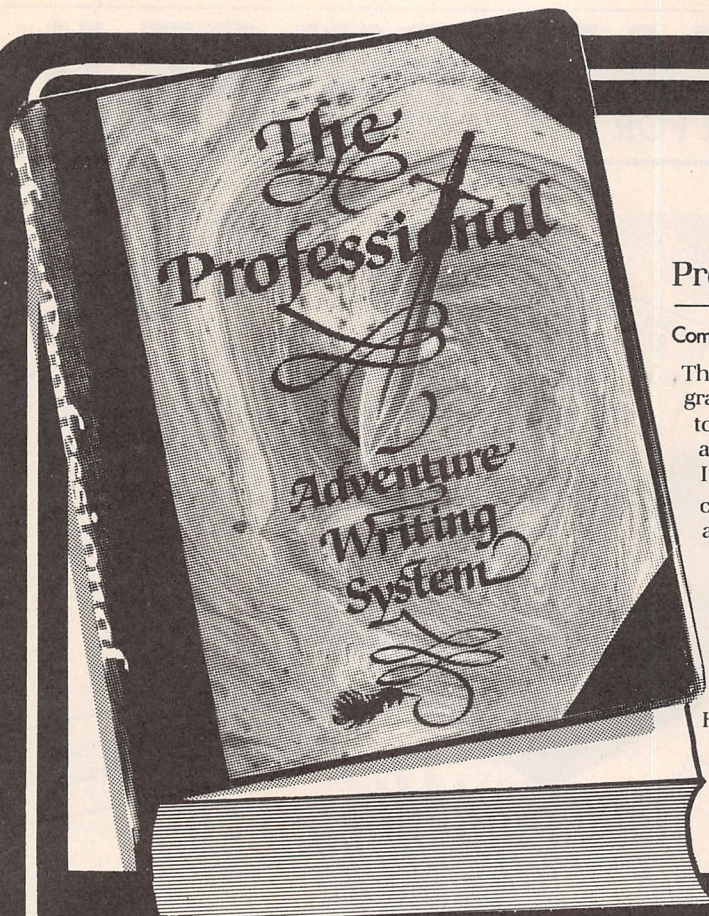
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- If you are serious about your adventuring, then it's well worth joining ACL as it is one of the best. (6 November 1986)
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* **MIKE GERRARD**:

- I can recommend them even more than I did a couple of months ago. (*Dragon User* - October 1985)
- The news that Pete Austin's just agreed to be their President is a feather in their cap, so if you fancy reading his monthly column in the Club Dossier, give them a ring on 01-794 1261. (*Your Sinclair* - May 1986)
- The Club does give very good value for money. (*MSX Computing* - April/May 1986)

* **KEITH CAMPBELL**:

- ACL can once again be recommended to C+VG readers interested in software discounts, in-depth hints and tips, reviews, and the general chat that adventurers get up to. (*Computer & Video-Games* - February 1987)

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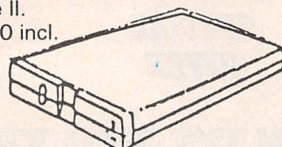
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Disc Utilities

Simon T Goodwin

This program provides the programmer with four new commands for Amstrad basic, to enable the Amstrad disc drives to be used to further effect. To get the commands up and running just type in and run the BASIC listing. If the program stops with an error then re-check the data statements. Lines 800-1000 of the listing give a small example of the kind of uses the commands can be put to. The machine code is located at 42000 but it is not relocatable. The commands are:

:Read, address of buffer, drive, track, sector

This command takes a sector from the disc (512 bytes long) and places it at the specified buffer address. The track (0 to 39), and sector numbers must also be specified. System format sectors are numbered &41 to &49, whereas data format sectors are numbered &C1 to &C9. The drive number should also be specified (0 for drive A or 1 for drive B).

:Write, address of buffer, drive, track, sector

Performs the opposite task to the :Read command. Takes the data from the buffer address and writes them to the disc at the specified track and sector

positions.

a%=0= :Type,@a%

Returns the format of the disc in the drive. If a disc is data format *a%* should be between 190 and 200. If a disc is system format *a%* should be between 60 and 70.

:ZIPDISC

Speeds up the disc drive by 20-30%. For example **Sorcery** loads in 6 secs instead of 9 secs.

:HELP

Gives a list of the commands and their syntax.

If readers do not want to type in the listing, I will provide it on tape or disc for £2.00 or £5.00 respectively.

```
>10 REM -----
20 REM   DISC PROGRAMMERS UTILITIES
30 REM   by Simon.T.Goodwin 1987
40 REM -----
50 REM
60 count=0
70 MEMORY 41999
80 FOR n=42000 TO 42500
90 READ a$
100 POKE n,VAL("&"a$)
110 count=count+VAL("&"a$)
120 NEXT
130 IF count<>49208 THEN PRINT "Error in
    data statements":END
140 CALL 42000: REM INITIALISE COMMANDS
150 REM
160 DATA 00,00,00,00,01,1D,A4,21
170 DATA 10,A4,C3,D1,BC,2E,A4,C3
180 DATA 47,A4,C3,67,A4,C3,87,A4
190 DATA C3,9B,A4,C3,C9,A4,52,45
200 DATA 41,C4,57,52,49,54,C5,5A
210 DATA 49,50,44,49,53,C3,54,59
220 DATA 50,C5,48,45,4C,D0,00,21
230 DATA D5,A5,CD,D4,BC,22,D6,A5
240 DATA 79,32,D8,A5,DD,6E,06,DD
250 DATA 66,07,DD,5E,04,DD,56,02
260 DATA DD,4E,00,DF,D6,A5,C9,21
```

```
270 DATA D1,A5,CD,D4,BC,22,D2,A5
280 DATA 79,32,D4,A5,DD,6E,06,DD
290 DATA 66,07,DD,5E,04,DD,56,02
300 DATA DD,4E,00,DF,D2,A5,C9,21
310 DATA CD,A5,CD,D4,BC,22,CE,A5
320 DATA 79,32,D0,A5,21,C0,A5,DF
330 DATA CE,A5,C9,DD,6E,00,DD,66
340 DATA 01,E5,3E,00,32,51,BE,21
350 DATA C9,A5,CD,D4,BC,22,CA,A5
360 DATA 79,32,CC,A5,32,BF,A5,1E
370 DATA 00,16,00,DF,CA,A5,1E,00
380 DATA DF,BD,A5,E1,3A,51,BE,77
390 DATA C9,CD,1D,A5,21,28,A5,06
400 DATA 1C,CD,15,A5,CD,1D,A5,21
410 DATA 44,A5,06,14,CD,15,A5,CD
420 DATA 1D,A5,CD,1D,A5,21,58,A5
430 DATA 06,27,CD,15,A5,CD,1D,A5
440 DATA 21,7F,A5,06,28,CD,15,A5
450 DATA CD,1D,A5,21,A7,A5,06,08
460 DATA CD,15,A5,CD,1D,A5,21,AF
470 DATA A5,06,0E,CD,15,A5,CD,1D
480 DATA A5,CD,1D,A5,C9,7E,CD,5A
490 DATA BB,23,10,F9,C9,3E,0A,CD
500 DATA 5A,BB,3E,0D,CD,5A,BB,C9
510 DATA 44,49,53,43,20,50,52,4F
520 DATA 47,52,41,4D,4D,45,52,53
530 DATA 20,55,54,4C,49,4C,49,54
```

```
540 DATA 49,45,53,2E,28,63,29,20
550 DATA 53,69,6D,6F,6E,2E,54,2E
560 DATA 47,6F,6F,64,77,69,6E,2E
570 DATA 7C,52,45,41,44,2C,62,75
580 DATA 66,66,65,72,20,61,64,64
590 DATA 72,65,73,73,2C,64,72,69
600 DATA 76,65,2C,74,72,61,63,6B
610 DATA 2C,73,65,63,74,6F,72,7C
620 DATA 57,52,49,54,45,2C,62,75
630 DATA 66,66,65,72,20,61,64,64
640 DATA 72,65,73,73,2C,64,72,69
650 DATA 76,65,2C,74,72,61,63,6B
660 DATA 2C,73,65,63,74,6F,72,7C
670 DATA 5A,49,50,44,49,53,43,7C
680 DATA 54,59,50,45,2C,40,66,6F
690 DATA 72,6D,61,74,25,6C,C5,00
700 DATA 2D,00,64,00,01,04,0A,01
710 DATA 03,87,00,00,00,82,00,00
720 DATA 00,85,00,00,00,84,00,00
730 DATA 00,28,63,29,20,53,54,47
740 DATA 20,31,39,38,36,00,00,00
750 DATA 00,00,00,00,00,00,00,00
760 DATA 00,00,00,00,00,00,00,00
770 DATA 00,00,00,00,00,00,00,00
780 DATA 00,00,00,00,00,00,00,00
```

Programming: Spectrum

Screen Merge

David Nash

This is a machine code program to merge together two pictures on screen which are stored as *Screen\$* files on tape. It is 100 bytes long and stored at address 65000. An assembly listing is given, but this is not necessary unless it is to be typed into an assembler.

To use the program, first type in the Basic program and run it. Provided no errors are found, the machine code is

now in memory. To merge together two screens, enter the command *Randomize Usr 65000*. The computer will now behave as if it were loading a screen but note that the filename does not appear on screen. When the first screen has been loaded, the computer will wait for the second one. This should now be played from the tape, but will not appear on the screen as it is going into higher memory. After this has loaded it will automatically be brought onto the screen whilst being merged with the one already

there.

The attributes (screen colours) of the final composite picture are those of the first one. The program, however, contains facilities to change this to either merging the attributes using a binary *Or* function on each byte, or filling the entire screen with one set of colours eg all black on white. These can be effected by *Poke*ing numbers into locations 65024, 65035, and 65046 before calling the machine code. The correct numbers are shown in the table below.

Programming: Spectrum

65024	65035	Effect
32	201	Attributes from screen one
36	201	Attributes merged
doesn't matter	0	Attributes set to value POKEd into address 65046

BASIC program for Screen Merger

```

100 REM *****
110 REM **Screen merger**
120 REM * D.Nash,1986**
130 REM *****
140 CLEAR 54999
150 LET add=65000
160 LET len=101
170 LET tot=0
180 FOR n=add TO add+len-1
190 READ b
200 POKE n,b
210 LET tot=tot+b
220 NEXT n
230 IF tot<>10704 THEN PRINT "Error in
data somewhere": BEEP 1,20: STOP
240 PRINT "All data correct"
250 PRINT : PRINT "To merge two screens
use"" RANDOMIZE USR 65000""Then pla
y two screens from tape."
1000 DATA 33,0,64,229,205,26,254,33,216,
214,229,205,26,254,17,0,64,33,216,214,6,
192,197,6,29,26,182,18,35,19,16,249,193,
16,243,201,1,255,2,17,1,88,33,0,88,54,56
,237,176,201,62,0,55,221,33,0,91,17,17,0
,205,86,5,56,2,207,26,221,33,0,91,221,12
6,0,254,3,32,243,55,62,255,221,33,0,91,2
21,86,12,221,94,11,225,221,225,229,205,8
6,5,48,221,201

```

Programming: QL

Coder

Douglas Pirie

The usual way of presenting machine code programs is as a series of Data statements, with a suitable Basic procedure to load the bytes back into memory. Coder takes all the hard work out of this by taking bytes in memory and creating just such a program on some output device.

<pre> 100 WINDOW 448,240,33,16 110 BORDER 2,4 120 PAPER 0:CLS:INK 7 130 INPUT "Start address of data ? ";start\$ 140 INPUT "Address of last item ? ";last\$ 150 start=dec(start\$) 160 last=dec(last\$) 170 INPUT "To device / File name ? ";dev\$ 180 PRINT "Save code from"!start\$!"to"!last\$!"to file"!dev\$ 190 PRINT "Go? (Y/N)" 200 IF INKEY\$(-1)=="Y" THEN do_it 210 INK 7 220 INPUT "Again ? ";ag\$ </pre>	<pre> 230 IF ag\$(1)=="Y" THEN RUN:ELSE STOP 240 : 250 : 260 DEFine FuNction dec(num\$) 270 IF num\$(1)<>"\$" THEN RETURN num\$ 280 decimal=0 290 FOR hex=2 TO LEN(num\$) 300 IF num\$(hex))="A" THEN 310 inc%=CODE(num\$(hex))-55 320 ELSE 330 inc%=num\$(hex) 340 END IF 350 decimal=decimal*16+inc% </pre>
---	---


```

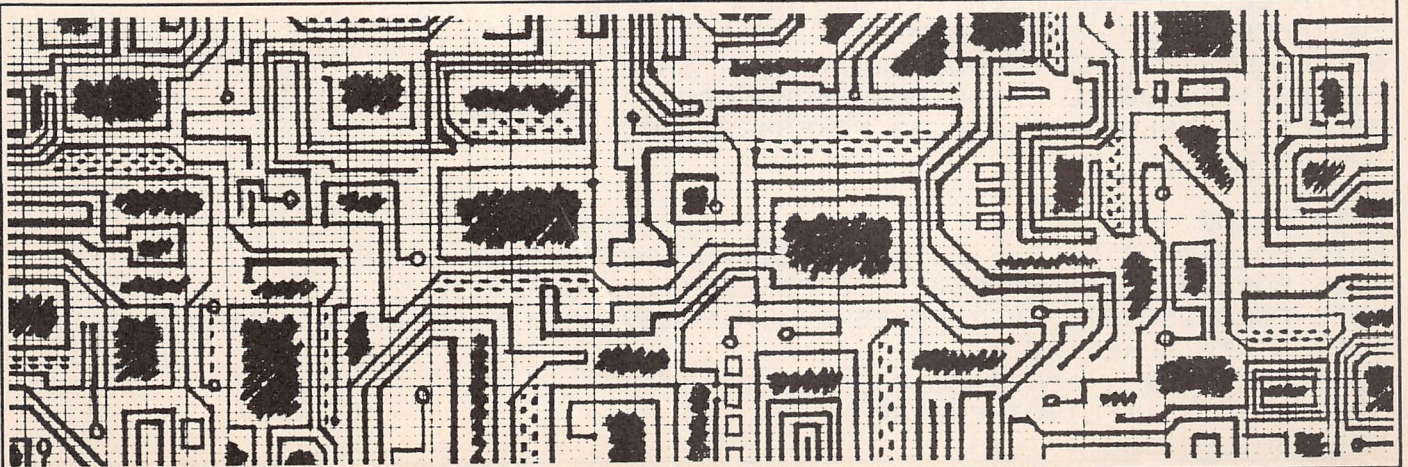
360 NEXT hex
370 RETURN decimal
380 END DEFINE
390 :
400 :
410 DEFINE PROCEDURE do_it
420 INPUT "\"Delete first? ";d$
430 IF d$=="Y" THEN DELETE dev$
440 OPEN_NEW#4;dev$
450 PRINT#4;"100 c=RESPR(";last+1-start;)"
460 PRINT#4;"110 FOR a=c TO c+";last-start;" STEP 16"
470 RESTORE
480 FOR lines=1 TO 16
490 READ line$
500 PRINT #4;line$
510 NEXT lines
520 count=0:num=270:check=0
530 INK 4
540 FOR byte=start TO last
550 IF INKEY$=="Q" THEN done:RETURN
560 printaddr
570 IF (count MOD 16)=0 THEN
580 num=num+10
590 IF count>0 THEN PRINT#4;',';check:check=0
600 PRINT#4;num!'DATA ";
610 END IF
620 count=count+1:pk%=PEEK(byte)
630 check=check+pk%
640 PRINT#4;dat$(pk%);
650 NEXT byte
660 done
670 END DEFINE
680 :
690 :
700 DEFINE FUNCTION dat$(val)
710 IF (val DIV 16)<10 THEN
720 hex$=val DIV 16
730 ELSE
740 hex$=CHR$((val DIV 16)+55)
750 END IF

```

```

760 IF (val MOD 16)<10 THEN
770 hex$=hex$+(val MOD 16)
780 ELSE
790 hex$=hex$+CHR$((val MOD 16)+55)
800 END IF
810 RETURN hex$
820 END DEFINE
830 :
840 :
850 DEFINE PROCEDURE printaddr
860 AT 17,0
870 PRINT "Saving location"!byte
880 END DEFINE
890 :
900 :
910 DEFINE PROCEDURE done
920 PRINT#4;',';check
930 CLOSE#4
940 END DEFINE
950 :
960 :
970 DATA "120 check=0:READ a$,ch"
980 DATA "130 FOR b=1 TO LEN(a$)-1 STEP 2"
990 DATA "140 n=dec(a$(b))*16+dec(a$(b+1))"
1000 DATA "150 POKE a+(b-1)/2,n"
1010 DATA "160 check=check+n:NEXT b"
1020 DATA "170 IF check=ch THEN"
1030 DATA "180 NEXT a"
1040 DATA "190 ELSE"
1050 DATA "200 PRINT#0;'Checksum error at line'!"
1060 DATA "210 STOP"
1070 DATA "220 END IF"
1080 DATA "230 DEFINE FUNCTION dec(h$)"
1090 DATA "240 IF h$<'A' THEN RETURN h$:"
1100 DATA "250 END DEFINE"
1110 DATA "260 : "
1120 DATA "270 : "

```



The object of Xedion, is to destroy the aliens before they reach the quadrum bar and drain your energy, by moving the sights over them and blast them with your triple lasers.

£4.00 on disc) to Mark Cullimore, 5 Heol
Sant Brigid, St Brides Major, Bridgend,
Mid Glamorgan CF32 0SL.

13-19 MARCH 1987


```

5100 GOSUB25000
5110 POKEEN,0:POKEY+16,0:FORA=0TO15:POKEY+A,0:NEXT
5112 FORA=0TO7:POKEYV+A,128:POKEYV+A,128:NEXT
5115 FORT=0TO150
5120 PRINT"#####GAME OVER"
5130 C=C+1:IFC>1THENC=0
5135 POKE646,C
5140 NEXTT
5142 PRINT"#####!"
5145 IF5C>HITHEN5200
5150 FORA=0TO39:PRINT"@"SPC(A);A0$;:POKE646,A:NEXT:FORA=0TO39
PRINT"@"SPC(A);B0$
;:NEXT
5155 PRINT"J":POKE54276,129:GOTO18
5200 :
5201 HX=4:HY=7:POKE54276,32:POKE54294,200
5202 FORA=0TO39:PRINT"@"TAB(A)D0$;:NEXT
5203 FORA=39TO0STEP-1:PRINT"@"TAB(A)E0$;:NEXT
5205 PRINT"##### A B C D E F G"
5207 PRINT"##### H I J K L M N"
5210 PRINT"##### O P Q R S T U"
5212 PRINT"##### V W X Y Z . &"
5214 PRINT"##### + * ! / # @"
5216 PRINT"#####-----"
5217 PRINT"#####GREAT SCORE,ENTER YOUR NAME"
5218 PRINT"#####USE + TO CLEAR"
5219 PRINT"#####AND @ TO END"
5220 S=NOTPEEK(56320)
5225 IF (SAND1)ANDHY>7THENHY=HY-2
5230 IF (SAND2)ANDHY<15THENHY=HY+2
5235 IF (SAND4)ANDHX>4THENHX=HX-2
5240 IF (SAND6)ANDHX<16THENHX=HX+2
5242 A=PEEK(1024+HX+40*HY)
5250 POKE1024+HX+40*HY,A:POKE54273,55
5252 POKE1024+HX+40*HY,128+A
5253 POKE1024+HX+40*HY,A:POKE54273,100
5254 IF (SAND16)THEN5300
5257 A=0
5260 GOTO5220
5300 :
5305 IFA=61THENL=113:GOTO5340
5310 IFA=63THENL=115:GOTO5340
5315 IFA=31THENWD$=""
5317 IFA=31THENPRINT"#####!"
5318 IFA=31THEN5220
5320 IFA=0THENHI$=WD$:HI=50:GOTO5150
5325 IFA>=1ANDR<=26THENL=A+64:GOTO5340
5330 L=A
5340 WD$=WD$+CHR$(L)
5342 IFLEN(WD$)=14THENHI$=WD$:HI=50:GOTO5150
5345 PRINT"@"WD$
5350 GOTO5220
9999 :
10000 POKEYV,128:POKEYV,128:POKEY+3,PEEK(V1):POKE54276,
129:POKE54273,PEEK(V1)
10001 IFFEEK(V+16)=3THENPOKEY+16,7:GOTO10100
10002 IFFEEK(V+16)=2THENPOKEY+16,6
10010 POKEY+21,255:POKEY+4,75:POKEY+5,PEEK(V1)
10020 FORA=40TO0STEP-12:POKEY+4,A:POKE54294,A:NEXT
10030 IFFEEK(V+16)=7THENPOKEY+16,3

```


Go Label

Stephen P Hamer

This C64 routine allows programs to *Goto* labels as well as line numbers. Simply assign a value to a variable, say *Thin=330*, and then *Goto Thin*.

```
10 PRINTCHR$(147)
20 FORI=0TO38:READD:T=T+D:POKE49152+I,D:NEXT
30 IFT<>4096THENPRINT:PRINT"CHEXSUM ERROR!":
PRINT:STOP
40 PRINT:PRINT"GO LABEL NOW ACTIVATED":PRINT
50 SYS49152
100 DATA169,11,141,8,3,169,192,141
110 DATA9,3,96,32,115,0,201,203
120 DATA240,6,32,121,0,76,231,167
130 DATA32,115,0,32,138,173,32,247
140 DATA183,32,163,168,76,174,167
```

Replace\$

Adam Wright

Another C64 routine from the prolific Adam Wright. This one will search a string for a character and replace it with another, either globally or selectively.

The syntax for the command is *Sys 49152, string, character to replace, character to replace with, globally (G) or selectively (S)*.

0 REM SEARCH/REPLACE#	11 DATA 196,253,208,245,240,8,165,255
1 DATA 32,253,174,32,241,174,32,166	12 DATA 145,250,165,252,208,235,32,115
2 DATA 182,134,250,132,251,133,253,162	13 DATA 0,96
3 DATA 0,138,72,32,253,174,32,158	15 SR=49152:OK=0:FOR A=SR TO SR+97
4 DATA 173,32,166,182,201,1,240,3	20 READ D:POKE A,D:OK=D+1:NEXT A
5 DATA 76,72,178,160,0,104,170,177	30 IF OK<>14298 THEN PRINT "ERROR":STOP
6 DATA 34,149,254,232,224,2,208,225	40 A\$="INSTALLED"
7 DATA 169,0,133,252,32,253,174,32	50 SYS SR,(A\$),"L",".",',0
8 DATA 121,0,201,71,240,7,201,83	60 PRINT A\$
9 DATA 240,5,76,72,178,230,252,160	
10 DATA 0,177,250,197,254,240,7,200	READY.

Textpack

Jonathan Temple

This program consists of two machine code routines for the BBC which will compress and decompress a string. *X%* and *Y%* hold the *LSB* and *MSB* of the address of the string. Use *Call pack* to pack it and *Call unpack* to print the unpacked version.

A short demo program shows how the routines work.

10 pack=&A00	110 PRINT " to ";LEN(\$&900);" bytes"
20 CX=0:FOR MZ=0 TO 72 STEP 4	120 XX=0:YZ=&9:CALL unpack
30 READ B\$:BZ=EVAL("&"+B\$)	130 END
40 CX=CX+BZ:MX!pack=BZ:NEXT	140 :
50 IF CX<>&C5BE57B0 PRINT"Error":END	150 DATA 71847086,728500A9,72A47385
60 unpack=pack+&2B	160 DATA C84870B1,20C970B1,72E607D0
65 :	170 DATA 30800968,73A46801,72E67091
70 PRINT	180 DATA 0DC973E6,8660E0D0,A0718470
80 \$&900=" Bytes & Pieces !"	190 DATA AA70B100,E3207F29,80298AFF
90 PRINT "Packed from ";LEN(\$&900);	200 DATA 20A905F0,C8FFE320,D00DC98A
100 XZ=0:YZ=&9:CALL pack	210 DATA 60EB

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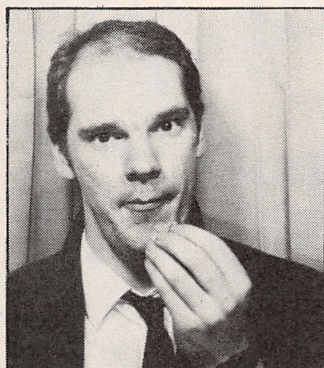
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with Kenn Garroch

64 sprites

A Collins of Northwich, Cheshire, writes:

I have just obtained a Commodore 64, secondhand, and would like to know how to use the sprites. A simple demo program will do.

The sprites on the 64 are accessed from the VICII chip. To use them you have to do a little setting up. There are a number of key locations that need to be *Poked*. The first is the definition and for convenience, this can be put in the cassette buffer at 832. The sprite definition takes up 64 bytes which are arranged as 21 rows by three bytes, the first three bytes being the top row, the second three the next and so on. The next memory location that is needed is the sprite definition pointer. On power up, these are located at 2040-2047 for the eight sprites. The sprites are numbered 0 to 7 and the sprite pointer for sprite zero is at 2040. For the sprite definitions, the memory is split into 64 byte blocks so 832, where the definition is, is the 13th block and 13 is poked into 2040.

The next step is to set up the VIC chip which holds the information needed for the X, Y position, the colour, and the enable, to switch the sprite on.

For sprite zero, the X position is held in 53248 but, since this only holds a value between 0 and 255, and the screen is 320 pixels across, an extra bit is held in a register at 53264 giving a possible position from 0 to 511 (9 bit

binary number). Bit zero of 53264 is the most significant bit of the X position for sprite zero, bit 1 for sprite one etc.

The Y (vertical) position of the sprite is held in a VIC register at memory location 53249. The vertical size of the screen is only 200 pixels and so a value between 0 and 255 is ample to define the Y sprite position. Some of the values that can be given to the sprite position are off the screen for an unexpanded square, these are outside the following rectangle: $24 < X < 320 - 50 < Y < 229$.

The colour of the sprite is set with a register at 53287. *Pokeing* a value between 0 and 15 this defines the foreground colour.

To enable the sprite, the VIC register at 53269 is used. This is set out in the same way as the high bit register for the X position with bit zero being set to one to enable sprite zero, bit one to enable sprite 1 etc. There are also other registers in the VIC chip that alter the way in which the sprites are displayed. 53277 contains the horizontal expansion bits which, when set, double the width of the sprite by doubling the width of each pixel that is displayed. Location 53271 is the vertical expansion register and operates in the same way as 53277. The sprite multi-colour register at 53276 defines whether a sprite is to be displayed as a multi-coloured object. If it is, then the data is interpreted in a different way and the sprite multi-colour registers are used to define the foreground colours 1 and 2. In fact, when the 64 is switched on, the VIC registers are preset in such a way that some of them don't need any attention such as expansion, multi colour, and the high bit of the X position, all of which are off.

After all that, a little program to demo the sprites is:

```
10 FOR T=0 TO 63
20 POKE 832+T,255
   REM DEFINE A BLANK
   SQUARE
```

```
30 NEXT
40 POKE 2040,13
   REM SET UP THE
   SPRITE DEF POINTER
50 POKE 53248,100
   REM X POSITION
60 POKE 53264,0
   REM X POSITION HI
   BIT
70 POKE 53249,100
   REM Y POSITION
80 POKE 53287,0
   REM COLOUR BLACK
90 POKE 53269,1
   REM ENABLE SPRITE 0
100 DX=1:DY=1
110 X=100:Y=100
120 X=X+DX:Y=Y+DY
130 IF X<24 OR X>320
   THEN DX=-DX
140 IF Y<50 OR Y>229
   THEN DY=-DY
150 POKE 53248,X-INT
   (X/256)*256
160 POKE 53264,X/256
170 POKE 53249,Y
180 GOTO 120
```

Working with the system

Alan Burroughs of Avonmouth, Avon, writes:

I have recently become interested in communications with my micro. I have a modem and have contacted a few bulletin boards and things are going fine. I wonder if you could explain how modems work with the telephone system.

The word modem stands for Modulator Demodulator and is a device that does exactly this. The RS232 signal from the computer is fed into the modem and modulated, ie turned into a frequency that depends on its voltage. RS232 uses signals at two voltages, ± 12 which are converted into two frequencies and are alternated depending on the bits sent. These frequencies are then sent down the telephone line as a series of beeps which you can hear if you pick up the phone and listen to them. At the other end, another modem picks up these frequencies and converts them back

into voltages, ie it demodulates them. These voltages are then converted to RS232 values, and sent to the computer that is receiving them.

Most modems these days work at 2 speeds, 300/300 and 1200/75. At 300/300, the data is sufficiently slow so that the telephone lines can handle bi-directional communications or full duplex. At higher speeds, the bandwidth of the lines comes into play. The bandwidth is the range of frequencies which the lines will transmit. At higher data rates, the frequencies used need to be higher since the rate at which the data is switched from one frequency to another approaches the modulation frequency. This causes problems since it is impossible to distinguish between the modulation frequency and the data if the data rate is too high.

The 1200/75 rate used by systems such as Prestel is a trade off that allows data to be sent quickly to the subscriber and replies to be sent during that transmission, albeit at a lower speed, and remain within the constraints of the telephone line. Some modems will allow 1200/1200 communication but this is only half duplex, ie only one modem can talk at once, the other has to receive.

To obtain higher data rates, other measures such as phase shifting need to be used. Here the data is not just modulated, it is separated into sections which are delayed very slightly so that the peaks of the waveform are moved slightly back from the last others allowing more information to be sent and received. Speeds up to 9600 baud can be achieved this way but the modems are more expensive and error checking on the data needs to be implemented since, with higher speeds, more errors are generated by the telephone line noise.

One way to ensure good transmission and reception is to use a 'leased line' system. BT will connect you directly to the other modem via a special telephone line capable of higher speed and cleaner signals. Needless to say, this does cost a teensy bit more than a normal telephone line.

Is there anything about your computer you don't understand, and which everyone else seems to take for granted? Whatever your problem *Peek* it to Kenn Garroch and every week he will *Poke* back as many answers as he can. The address is *Peek & Poke, PCW*, 12-13 Little Newport Street, London WC2H 7PP.

A dramatic, low-angle shot of a Black Hawk helicopter in flight, viewed from below. The helicopter is dark, with its rotors blurred, suggesting high speed. The background is a bright, hazy sky, and the foreground shows the tops of some structures, possibly a city or a battlefield.

The thinking micro's editor

Mark Jenkins reviews Hybrid's Casio Editor



Two weeks ago we began to look at *CZ-Android*, the Atari ST-based editing system for the Casio CZ synthesizers. Those of you who thought they'd heard of the system under the name *CZ-Droid* were right — Hybrid decided to avoid any possible legal problems with the George Lucas/*Star Wars* corporation by changing the program's name at the last minute.

The change of name doesn't allow you to forget, however, that one interesting aspect of the program is its artificial intelligence; if you're frustrated by your efforts to create new sounds, it will make up a few of its own for you.

The program itself operates from two main screens, and has a certain graphic content as well as a straightforward indexing function. It works with all Casio synths — the CZ-101, CZ-1000, CZ-3000, CZ-5000, CZ-230S, and flagship model CZ-1 which, unlike the others, features velocity and pressure sensitivity. If you're using a CZ-1, all you have to do is select *CZ-1 Parameters* from the *Edit* menu to enable these functions. The CZ-230S only has four editable memories and no memory buffer, so its Voice 96 is used by *CZ-Android* as an editing space and the sound in this memory will be erased in use.

CZ-Android is divided into two main parts; the Librarian and the Editor. The Librarian desktop loads first. On this screen you have four windows, Workbank A and B (two banks of 16 sounds each in the computer's memory), the CZ internal bank (the patch bank in the synthesizer) and the workspace, which is large enough to contain just a single sound and allows you to drag sounds out of the synth or computer memory to edit them.

Each sound is given a name (a facility you'll find useful on the CZ-101 and all other models (other than the CZ-1) which don't allow you to name your own sounds) and you can copy single sounds or whole banks to or from the synth simply by dragging individual names or the *All* indicator to the appropriate location. *CZ-Android* is pretty good at helpful dialogue, including asking "Are you sure you want to do this?" at appropriate moments, so it's easy to copy a whole Workbank to disc by selecting for instance *WBA* —> *File* from the File menu.

"If you're frustrated by your efforts to create new sounds, CZ-Android will do it for you"

Other options on the File Menu include *File* —> *WB B* which allows you to load from the disc, via a disc directory, to the Workbanks. On the Edit Menu you'll find the option "Begin Edit", which takes you to the other main section of *CZ-Android*, the Editor. This page displays the name of the sound at the top of the screen (at first it's loaded with a "blank" sound called ****init****) and shows every parameter of the voice on one screen. Sections are included for DCO 1/2 Envelope, DCW 1/2 Envelope and DCA 1/2 Envelope, (these define the changes in pitch, waveform and volume during the course of a note for each of the two "lines" of DCO-DCW-DCA available on the synth) with settings for all eight stages of all six envelopes shown. The points at which each envelope sustains and ends is shown by the small abbreviations (wait for it) *sus* and *end*.

Also on the page are listings for Key Follow (DCW 1/2 and DCA 1/2), Vibrato Wave/Delay/Rate and Depth, Detune Direction/Octave/Note and Fine, DCO 1/2 start and end waves (with both graphic and numeric representation), Line combination, Octave, and Modulation On/Off. That's a pretty comprehensive representation of the Casio voice, but of course you'll have to experiment with combinations of voices yourself on the CZ-3000, CZ-5000 and CZ-1 which can all layer sounds. *CZ-Android* communicates instantly with the connected synth, so any change you make to the screen display can instantly be heard by playing the synth's keyboard.

If you click on one of the *Envelope* icons you'll get a complete graphic representation of all the programmed stages with Full Mode showing the whole envelope and the scroll mode showing only part of it at any one time for more precise editing. A small box appears at the start of each envelope stage and you can drag the around in order to change to envelope to your

satisfaction; those familiar with the layout of the Casio or other synths will realise that the envelopes applied to the pitch, waveform and volume will largely define the type of sound produced. If you need a printout of an envelope the usual Alternate/Help combination will produce one.

The other two main editing options are *distort*, which automatically generates smallish variations on the original sound, and *android*, which creates a completely new voice generally of a musically useful kind and update the screen display at the same time. Once you have a sound you like you can save the edited voice to the workspace and return to the librarian section to name it, file it away or transfer it to the synth.

CZ-Android can be operated from the mouse or from the computer keyboard, with "Undo" being particularly useful if you get stuck, and holding Shift will allow parameters to be incremented in 10's rather than units. All parameters "wrap around" from their maximum to minimum levels.

The Edit Menu includes the Midi data Edit Monitoring option which can be switched off to speed up response if you're not actually connected to a synth. If you're using more than one synth they can be set to different Midi channels and selectively edited using the Midi channel select option.

It's important to realise that *CZ-Android* will only handle parameters already available on the synth, so you'll occasionally find yourself unable to drag an envelope stage in a particular direction, or (as on other CZ editors on the market) find the digital quantisation of envelope lengths becoming visible and causing strange effects at short envelope times.

Other limitations which stem from the synth's design include an inability to choose one of the "resonant" waveforms on both oscillators simultaneously, and the inability to use Ring or Noise modulation on some combinations of Lines. However, you do have the facility to compare an edited voice with the original so it's easy to find out if you're making any progress.

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The Sunday World of Micronet

Popular is, by reason of logic, for and about computers. The reader buys each issue (we hope) with a view to being entertained and amused by the latest happenings on the computer scene. For those computer owners with access to a modem, Micronet 800 offers a similar daily fare, but for every day? Here, Steve Gold takes a look at the seventh day offering from Micronet and finds there's more to computing on a Sunday than computers . . .

In the early days of home computing, the Sinclair ZX81 and Spectrum home computers were advertised by mail order in the colour supplements. This was an early indication, perhaps, that the average 'coloursupp' reader was a target buyer for Sir Clive Sinclair's computers.

Some six years on, we've come full circle, and now Micronet members can look at the Prestel/Micronet version of

the colour supplement online with their modems. Sunday Extra is here.

When Micronet was first conceived back in 1982, and subsequently launched in the early part of 1983, its typical audience was seen as a micro

computing-crazy teenager with a (relatively) high disposable income plus computer with a propensity to try anything new, so long as it included computers.

So it was that Micronet 800 concentrated on supplying a daily 'fix' of all things computerate, to their growing membership.

Times have changed since 1983 however, and Micronet have found there is no such thing as a typical Micronetter. Instead, Micronet membership spans a broad spectrum of society, ranging from affluent kids to the young-at-heart adults. These users need something other than a diet of pure computing to keep them happy and healthy.

In the middle of 1986, Micronet's editor Sid Smith and his recently appointed assistant Chris Bourne, brought 'Sunday Extra' to the Micronet membership (Aided, I should add, by a lot of hard work from all of Micronet's staff). Sunday Extra is the embodiment of the Sunday heavyweight's colour supplements on the small screen. Features, news, and reader feedback, in the form of a letters page and chatlines, combine to make a non-computer-orientated electronic magazine pitched at the computer literate.

"What we want to do is to branch out from computing on Micronet, and give our readers a taste of the world at large," Wrote Micronet when they introduced the service. Now, after several months of almost imperceptible evolution, a typical Sunday Extra provides a good hour's (and more) worth of entertainment on a variety of subjects.

Features on topics as diverse as music, video, and the arts are mixed in with a tongue-in-cheek attitude to life, to produce what Sunday Extra editor Chris Bourne calls "the right balance that appeals to our readers."

A typical day's features are listed below, and, as you can see, the variety of topics caters for all tastes.

Welcome to the new style
of Sunday news and gossip
— via your micro

```
MICRONET (c)      8004011a      Op
SLASHER
Micronet's
Bitchy Boa
crushes the juice
from another week
SUNDAY
Wake up feeling
moderately in
need of mild physical
exercise, and so
decide to pop down to
Laburinth for
yet another session of
underground role-
playing mayhem.
This time I have decided to enter the
B*****d Squad Special, a one-off
adventure for a tribe of half-orcs.
more. #
Tell Slash: 5  Browse: 8  XTRA: 9
```

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MICRONET 800 (c)      800a      Op
Thursday 5th December
micronet
800
1 Quick guide to M'net
2 How to join
3 Telesoftware
4 December Teleshopping
5 Latest News
6 Communication
7 Microbases
8 Bizznet
9 Softshop
WHAT'S NEW TODAY...Goto #
```

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MICRONET (c)      80040100a      Op
MICRONET'S SUNDAY SUPPLEMENT
XTRA
FEATURE
11 SPIES
Tinker, tailor, soldier, spook
GOSSIP
12 SLASHER smears it where it sticks
LETTERS TO XTRA
13 Read 'em      5 Write 'em
MEDIA
14 SILVER SCREEN: Troy Boy no good
15 NEWS: Beverley Hills Rambo?
MUSIC
Mel Croucher bends an ear to:
21 SINGLES 22 ALBUMS 23 TOP TENS
25 Features Archive 9 Micronet A-Z
```

From the Micronet files: more than you thought

continued on page 38 ►

◀ continued from page 37

Sunday 15th of February, 1987

Features: St Valentine's Day Quiz
Gossip: Slasher's slap and tickle
Letters: Read 'em/Write 'em
Media: Small Screen - The Zircon Affair. News - Sherlock sleuths again. Books - The purple cloud
Music: Mel Croucher reviews. The latest singles. The latest albums plus - Top ten and Dead ends.
Celebrity Chatline - Ursula Kenny, features editor of Mizz magazine answers questions on Valentines day.

Micronet's small band of dedicated full-time staff rely upon external input to the magazine to add flavour and variety. Graphics editor Anna Smith provides the colourful viewdata graphics to liven up the text, but, ultimately, it's the written word that catches the reader's eye.

Out of 20,000 subscribers, Micronet has a vociferous minority who add colour and spice to the letters pages, and who, if their palms are crossed with sufficient silver, will put hand to keyboard and pen their own article for the membership to read. Ironically, it is the very computer fanatics - the hardest of the hard-core Micronetters - who produce some of the most interesting

articles.

Often, their day to day lives and non computer-orientated hobbies make fascinating reading for Micronet Sunday Extra viewers. Whilst the chatlines (a sort of computer version of radio cb, where users can chat to each other via the keyboard and modem) are usually heavily computer-orientated, members are often unaware of their contact's background lives. By writing an article in the viewdata medium, Micronetter's are able to express themselves more freely than using a mere word processor. In essence, Micronet is an interactive medium, as members can instantly respond via letter (mailbox) or chatline, if they think a particular article is poorly-written or presented.

An hour spent online to Micronet, at cheap local call rates works out at about 60 pence. Compared to a typical Sunday paper and magazine, Sunday Extra offers colour and feedback on a scale that newspapers cannot hope to meet. For an overhead of £1 a week, members can call the service as often as they wish and 'look in' on a daily diet of news and views. Sunday Extra is the seventh day 'rest' entertainment for Micronetters. All computers and no play makes Jack (and Jill) a dull boy (or girl).

Micronet 800, 8 Herbal Hill, London EC1R. Tel: 01-278 3143.

Once connected to the telephone using a modem, a computer owner is faced with two distinctly different methods by which data is displayed. On the one hand, straight text (ASCII) as seen in a word processor, clearly gets the story across, whilst on the other hand, pictures paint a thousand words.

Between the two extremes - pure text and pretty pictures - lies viewdata. Perhaps the most common example of viewdata in everyday life is in its TV equivalent - Oracle and Ceefax teletext. The TV services, however, only have a few hundred pages to look at. Micronet, available to modem owners on Prestel, has several tens of thousands of such screens of information, changing all the time.

Since 1983, Micronet has grown to more than 20,000 members and supports several computers, including the BBC Micro range, Commodore C64 and Amiga, Sinclair Spectrum and Amstrad CPC and PCW series.

To demo Micronet, call up Prestel on its national access number (021-618-1111) and key an ID of ten fours (4444444444) and a password of four fours (4444). For most areas of the UK, Prestel is available for the price of a local call. This demo will give you a taste of Micronet's many features.

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This toolkit also contains lots of new graphics commands, all of which have the ability to draw using user defined patterns, not just solid lines. There is even a new fill command that will fill any shape with any user defined pattern (features like these are normally only to be found in the most expensive of drawing programs). We even throw in a special pattern designer so that you can design your own new patterns at leisure.

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★ **GAME TOOLKIT £5** ★

This toolkit contains everything you need to create fast animated arcade games on your QL. It also contains extra routines to allow you to produce multi-tasking tunes (like the ones found in all the best arcade games). You can have up to 32 sprites all of which can have up to 16 frames of animation. Collision detection is also provided and of course it goes without saying that our sprites are some of the fastest and smoothest around. A sprite designer is also included.

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New Releases

John Cook looks through this week's new arrivals

Amstrad CPC

Program *Riding the Rapids*
Type Arcade **Price** £1.99
Supplier Players, Mercury House, Calleva Park, Aldermaston, Berks RG7 4QW.

Program *Marble Madness - The Game*
Type Arcade Construction **Price** £9.95 **Supplier** Melbourne House, 60 High Street, Hampton Wick, Kingston-upon-Thames, Surrey KT1 4DB.

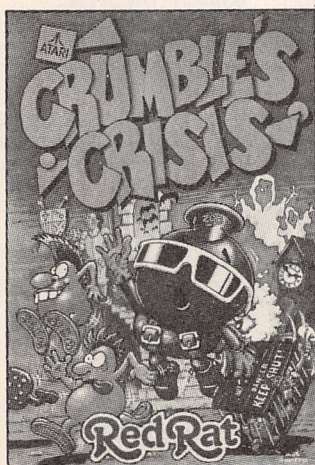
Here you have not only the *Marble Madness Construction Set* - which is pretty neat if you are into Marble Madness style action - but also some thirty odd screens already made up for you to get through. Not bad.

Program *Strike Force Combra*
Type Arcade Adventure **Price** £9.95 **Supplier** Piranha, 4 Little Essex Street, London WC2R 3LF.

Atari XL/XE

Program *Robot Knights*
Type Arcade Adventure **Price** £7.95 (tape), £9.95 (disc), **Supplier** Red Rat Software, 11 Fennel Street, Manchester M4 3DU.

Program *Crumble's Crisis*
Type Arcade Adventure **Price** £7.95 (tape), £9.95 (disc) **Supplier** Red Rat Software, 11 Fennel Street, Manchester M4 3DU.



Two arcade adventures for software starved XL and XE owners - *Crumble*, having particularly good graphics.

Atari ST

Program *ST Protector & Space Station*
Type Arcade Double Pack **Price** £24.95 **Supplier** Eidersoft, Hall Farm, North Ockendon, Upminster, Essex RM14 3QH.

Program *War Zone & Fire Blaster*
Type Arcade Double Pack **Price** £24.95 **Supplier** Eidersoft, Hall Farm, North Ockendon, Upminster, Essex RM14 3QH.

Eidersoft has recently repackaged four of its arcade games into two double packs. Good value at this price.

Program *Pro-Sprite Designer*
Type Utility **Price** £39.95 **Supplier** Eidersoft, Hall Farm, North Ockendon, Upminster, Essex RM14 3QH.

The second ST sprite designer to come in recently, the other being from Microdeal. I think I feel a comparative review coming on.

Program *Techmate Chess*
Type Chess **Price** £19.95 **Supplier** Microdeal, Box 68, St Austell, Cornwall PL25 4YB.

Program *Skyfox*
Type Arcade **Price** £24.95 **Supplier** Ariolasoft, 68 Long Acre, London WC2E 9JH.

Long awaited conversion - but we decided that zap-per/flight sim award still goes to *Strike Force Harrier*.

Program *Zoomtracks II*
Type Application **Price** £69.95 **Supplier** Microdeal, Box 68, St Austell, Cornwall PL25 4YB.

Interesting relational database, produced under licence in the UK from Quickview Systems in the States, where it was very well received. Cut down version available for £39.95.

Pick of the week

Phantastic, too

Program *Phantasie II*
Type Strategy Role Playing **Micro** Atari ST/Commodore 64/Apple II/Atari XL/XE (disc only) **Price** £24.95 (ST) £19.95 (other) **Supplier** SSI, via US Gold, Units 2/3 Holford Way, Holford, Birmingham B6 7AX.



Playing games all day isn't all fun. If anything, it has a tendency to put you off them for life - and there are times when after a hard day's zapping, all you want to do is go home and lie down in a darkened room. Yup, those aliens can sure get to you, space cadet.

And as for weekends, well, there's nothing we like better, here at *Popular*, than to spend our 48 hour respite from saving the Universe walking the car, changing the oil on the dishes and washing the dog - whiling away some time on those little domesticities that we'll all come to know and love. Not this weekend.

I've had a total of nine hours' sleep, eaten three times and that's about it. The problem is, of course, *Phantasie II*.

Phantasie II is the follow up to the obvious, itself a role playing game that had entranced one member of staff for a couple of weeks (the time it took to solve it, working almost full time). It looks like I'm the one to be hooked on the follow up.

The game system is almost identical. You start by building up a team of six adventurers, who can virtually be any race or character class with the Quest to free the island of Ferronah from the evil clutches of Nikademus, the gent whose butt you may or may not have kicked in *Phantasie I*.

Having been evicted from Gelnor, old Nick is up to his old tricks elsewhere, and it's up to you to do the right thing by Pixiedom. Having created your party, you must explore the world, find dungeons, rescue princesses, fight eight beasts of Pluto to gain eight amulets, so as to present the Sacred Orb to the Ice Dragon, that it and its power be destroyed.

To anyone familiar with

D&D and its derivatives, the plot (which I've already given away a little too much of) may sound a bit clichéd - but SSI execute it so well.

Your party of six (who start off knowing nothing of the above) really do seem to develop their own personalities, despite the limited program/player interaction. How my brave lads fought, so that Drivein (now 12th level Dwalven Wizard) could be resurrected and rejoin the group, when he met with an unfortunate accident.

The puzzles within the game are largely logical, with clues scattered around the world which must be painstakingly pieced together. I got a lucky break early in the game - but I don't know how anyone else is going to find the gate into the Netherworld without one hell of a lot of leg work.

But I digress. The point is that this is a fantastic game. I played it on an ST, but it looks to be similar on the other formats. It is disc based, you'll note - there's no other simple way to make games that big - and although many of you may not have a disc system, I make no apologies for going on about it at such length.

Just like there'll always be an England (ignoring the rugby for a moment), there'll always be a shoot-em up. But the style of game that can combine some kind of action with an element that stretches the grey matter - there the future lies.

Program Shuttle II Type Arcade Simulation **Price** £24.95 **Supplier** Microdeal, Box 68, St Austell, Cornwall PL25 4YB.

Long awaited from Microdeal, this is not the super complex simulation we'd been hoping for – rather four arcade sequences joined together. Still, not totally without merit.

Program Typhoon Type Arcade **Price** £24.95 **Supplier** Gremlin Graphics, Alpha House, 10 Carver Street, Sheffield S1 4FS.

Everyone's writing for the ST nowadays, aren't they? This is Gremlin's first offering, licensed from Germany, and there's no doubt about it, it looks good. Sounds good too – lots of digitized sound effects, like *Starglider*. However, even though the backgrounds are pretty, the bottom line is that this is a pretty unimaginative shooter lacking the speed and responsiveness that would normally make that forgivable. Bets that Gremlin will do better than this, and Mastertronic will soon be bringing out something similar for a tenner.

Program Liberator Type Arcade **Price** £12.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

Competent shooter with vertical scroll. Nicely designed graphics, fairly original design – not as flash as *Typhoon*, but only costs half as much.

BBC & Electron

Program Plan B Type Arcade **Price** £2.99 **Supplier** Bug Byte, Argus Press Software, Victory House, Leicester Place, London WC2H 7NB.

Program Ice Hockey Type Arcade **Price** £2.99 **Supplier** Bug Byte, Argus Press Software, Victory House, Leicester Place, London WC2H 7NB.

Sports arcade action from the author of existing BBC hits, *Tennis* and *Cricket*.

Program Savage Island (Part 1) Type Adventure **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

Program Savage Island (Part 2) Type Adventure **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

C16/Plus 4

Program Battle Star Type Arcade **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

OK, so it's *Uridium* on the C16... but where else are you going to get *Uridium* on the C16? Buy.

Program Savage Island (Part 1) Type Adventure **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

See Commodore 64 listing for comment.

Program Savage Island (Part 2) Type Adventure **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

See Commodore 64 listing for comment.

Commodore 64

Program Savage Island (Part 1) Type Graphic Adventure **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear, NE21 4TE.

Scott Adams adventure that certainly doesn't break any new ground in the

field, but knowing the author, will certainly have its fair share of puzzles and conundrums.

Program Savage Island (Part 2) Type Graphic Adventure **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

Part Two of the above. Considering the trend towards packaging multi-parters together – *Murder off Miami* for instance – you might find the fact that both of these add up to around 16 quid, rather offputting.

Program Ranarama Type Arcade Strategy **Price** £8.95 (tape), £12.95 (disc) **Supplier** Hewson, Hewson House, 56b Milton Trading Estate, Milton, Abingdon, Oxon OX14 4RX.

Mervyn the Sorcerer's apprentice has been mixing his potions again, and has found himself transformed into a frog, in the middle of a dungeon complex full of Evil Warlocks. I have days like that.

A classy arcade game with a fair element of strategy, drawing well heavily from other Hewson titles, such as *Paradroid*, without blatant plagiarism.

Difference is that Andrew Braybrook is a Commodore expert, while whoever did this conversion from the Spectrum (programmed by Steve Turner himself), isn't.

Despite the relatively poor turn out on this format however, still well worth a look. Out March 23.

Program Street Sports – Basketball Basketball **Price** £9.99 (tape), £14.99 (disc) **Supplier** US Gold, Unit 2/3, Holford Way, Holford, Birmingham B6 7AX.

Not as played in the gym – but it's out there on the streets, kids, where we all know it's rough, tough and full of doggie number twos.

Program Strangeloop Type Arcade **Price** £2.99 **Supplier** Bug-Byte, Argus Press Software, Victory House, Leicester Place, London WC2H 7NB.

This was state-of-the-art arcade stuff in the pre-*Knight Lore* days. Lots of things moving about on the 250 screens, fair bit of zapping to do and, whoops, look out for the razor sharp industrial waste. Probably just about worth the budget price in 1987 – but haven't you got it already?

Program The Big KO Type Arcade **Price** £7.95 **Supplier** Tynesoft Computer Software, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

2-D boxing game converted from the Beeb with nice cartoon graphics – but on the 64 it's just not worth the money.

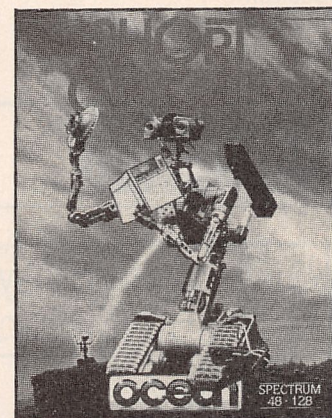
Spectrum

Program Short Circuit Type Arcade Adventure **Price** £8.95 **Supplier** Ocean Software, 6 Central Street, Manchester M2 5NS.

Very impressed with the CPC version, so it's nice to see the Spectrum coming up to the same mark.

Neat two part arcade adventure – one in colourful perspective 3-D, the other not – that captures the spirit of the film nicely.

Certainly not one for the hard core, but as a none too exerting amusement, it succeeds.



Program Savage Island (Part 1) Type Graphic Adventure **Price** £7.95 **Supplier** Tynesoft, Addison Industrial Estate, Blaydon Upon Tyne, Tyne & Wear NE21 4TE.

For comment see Commodore 64 listing.

Applying the full Spectrum

Many programs have tried to stretch the 48k and +2 versions of the ZX Spectrum to its limits. There are however features of the machine which, I suspect, are not fully utilised by the vast majority of owners.

If you program in Spectrum basic you may have used the mathematical functions *sin* and *cos* to draw radii of circles. When did you last use *Asn*, *Acs*, *Tan* or *Atan*? Would you know what combination of key presses are required to get these keywords?

Unless you are interested in mathematics it is unlikely that you would know how to use them. I have seen some program listings which use *LN* and *EXP* in a sort routine.

Tasword Three, the word processor, makes use of just about every combination of key presses. Those which would produce keywords in Basic actually control various functions of the program. This program also makes full use of the microdrives.

Tasprint uses an uncommon symbol, the tilde character (~). How often do you use it, or the square and curly brackets? What about the back slash (\)?

The addition of *Interface One* and microdrives further increases the potential of the Spectrum.

Several new commands are

available as soon as *Interface One* is connected. Most are useless without microdrives.

You can add your own commands to the Basic. A knowledge of machine code and a bit of imagination are required to develop this asset.

Interface One can take up to eight microdrives. How many Spectrum owners use that many? I use two and don't personally know anyone that uses more than two.

Linking two or more Spectrums using the networking facility opens up a lot of possibilities. Two, used in conjunction with an assembler like Picturesque's *Editas*, make a useful development system for machine code games and routines.

The assembled code can be sent from one Spectrum to the other over the net and tested on the second. This avoids having to constantly save the code, reset the computer, load the code and then test it.

Up to 64 Spectrums can be linked using the network. I know several people with *Interface One* who have never used the facility. I have yet to hear of anyone who has experience of being on a net with several Spectrums, let alone 64.

Education would be an obvious use for a net and would surely have been used in this field if the BBC was not the

most common computer in schools.

The RS232 port enables the Spectrum to be connected to external devices. The most common use for this is probably to connect a full size printer. A Centronics interface connected to the expansion port is an easier option, although it may be more expensive than the cost of making up the right RS232 lead.

A full size printer used with word processing software such as *Tasword* can be a great asset if you write a lot. It is up to the user to make the most of all the facilities such a set up offers.

The same is true with programs like *The Artist*. You must experiment with the functions to realise their full potential. The Spectrum expansion port enables other peripherals to be connected to the computer. Each one increases the uses to which a Spectrum can be put.

I realise that factors preventing owners from exploiting their Spectrums to the full include lack of spare cash and not having the necessary knowledge. It will be interesting to see if the 128 and +2 versions of the Spectrum will be used to the full. Only time will tell.

A Campbell Black

NEXT WEEK

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The Spectrum

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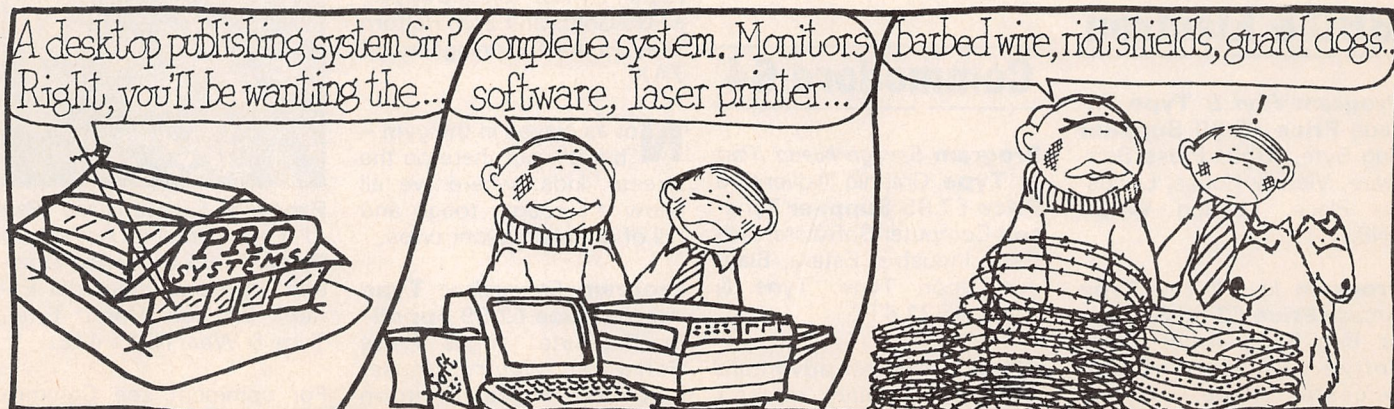
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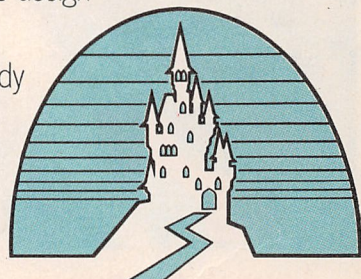
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